FACULTY ATTITUDES TOWARD DISTANCE EDUCATION IN U.S. PUBLIC HIGHER EDUCATION

by

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AN ABSTRACT OF THE DISSERTATION OF

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TITLE: FACULTY ATTITUDES TOWARD DISTANCE EDUCATION IN U.S. PUBLIC HIGHER EDUCATION

Major Professor: Marybelle C. Keim, Ph.D.

The purpose of this study was to describe and analyze the attitudes of faculty at public U. S. institutions of higher education toward college-credit distance education (DE). A nationwide survey of faculty at public research universities, public comprehensive institutions I, and public two-year institutions with general transfer programs in the United States was undertaken in an attempt to estimate the attitudes of U. S. higher education faculty as a whole toward college-credit DE.

A stratified sample of chairs and two other faculty in three disciplines-- Chemistry, Marketing and Political Science -- was selected, and in December 1991 and January 1992, surveys were mailed to department chairs, other tenured faculty and assistant professors at 21 public research universities and at each of 20 comprehensive institutions I, and to division chairs, faculty in tenure systems and other faculty at 16 public two-year colleges with general transfer programs. Usable surveys were returned by 317 of 480 faculty surveyed, for an effective response rate of 66%. Faculty surveyed were fairly similar in terms of age, sex, tenure and academic rank to faculty in similar institutions as reported by the National Center for Education Statistics.

Analysis of the findings of this study suggested that cautious optimism was warranted about the future of distance education in the U. S. On a scale from '1' (very positive) to '7' (very negative) with '4'= neutral, faculty surveyed held, on average,

slightly positive attitudes toward DE as a general concept (M=3.77), and slightly to moderately positive attitudes toward the development and distribution of DE by educational consortia in which the respondent's institution took part (M=3.68). Respondents indicated slightly to moderately negative attitudes toward DE use in their own academic programs (M=4.36) and toward personal use of DE (M=4.47). On average, two-year college faculty held moderately positive attitudes (M=3.36) and comprehensive university faculty held slightly positive attitudes (M=3.84) toward DE as a general concept, while research university faculty held neutral attitudes (M=4.0).

Respondents reported slightly positive attitudes toward videoconferencing and telecourse study, slightly negative attitudes toward computerconferencing and audiographics, and moderately negative attitudes toward correspondence study and audioconferencing when used in the delivery of DE. Content analysis of answers to open-ended questions revealed concerns about interaction in DE and other indicators of quality, as well as qualified support for expanded access to higher education via DE.

The findings of the study suggest that there are considerable variations in public higher education faculty attitudes toward distance education in general and specific academic settings and via specific media/methods, based on previous experience with instructional media and DE, familiarity with DE, gender and institutional classification. A major conclusion was that institutional participation in visual-media-based DE consortia is likely to be supported by U.S. higher education faculty.

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DEDICATION

This work is dedicated to the memory of my grandparents, Elmer and Ella Clark, and Oscar and Mae Rabbe.

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Chapter 1

INTRODUCTION

Distance education, or formal instruction in which teacher and learner are separate during a majority of the teaching function (Verduin & Clark, 1991), is a mode of educational delivery that is growing in popularity in many nations (Kaye, 1988). It can be used to provide college-credit educational opportunities to nontraditional learners who are unable or unwilling to take part in conventional classroom study, as well as to provide further options for higher education to conventional learners.

While distance education is being used more widely in U.S.higher education, it is still offered largely through the continuing education and extension units of colleges and universities (Feasley, 1984). On-campus faculty and even continuing educators (Campbell-Thrane, 1984) may view distance education and other nontraditional delivery methods as "inferior". This attitude is perhaps most apparent in public research universities, where institutional missions that are related both to academic excellence and to statewide public service may lead to considerable internal conflict (Rockhill, 1983). The attitudes of American college and university teachers toward college-credit distance education have not been the focus of much research. The perceptions of these faculty may be critical factors in the adoption and institutionalization of college-credit distance education in the United States, since it appears unlikely that distance delivery modes will achieve long-term success without faculty support.

Purpose of the Study

The purpose of this study was to describe and analyze the attitudes of faculty at public U. S. institutions of higher education toward college-credit distance education. A nationwide survey of selected faculty at public research universities, public comprehensive institutions I, and public two-year institutions with general transfer programs in the United

States was conducted in an attempt to ascertain similarities and differences in the attitudes of relevant subgroups of surveyed faculty toward college-credit distance education.

Research Questions

1. Do public higher education faculty in the United States hold negative or positive attitudes toward the teaching of college-credit courses by distance education methods?

2. Do the attitudes of faculty at public institutions of higher education in the United States to college-credit distance education vary significantly with regard to the kinds of instructional methods that might be used in teaching at a distance?

3. How do the attitudes of public higher education faculty toward college-credit distance education vary in relation to their professional characteristics ?

4. How do the attitudes of public higher education faculty toward college-credit distance education vary in relation to their previous use of distance education in instruction, their previous use of instructional media in instruction, and their prior knowledge of distance education?

5. How do faculty at public institutions of higher education in the U.S. rationalize (1) their own perceived attitudes toward the concept of distance education, (2) their perceptions of whether distance education should or should not be used at their own institution, and (3) their perceptions of the adequacy of rewards for faculty who participate in distance education at their college or university?

Significance of the Study

Because the attitudes of public higher education faculty toward distance education may be predictive of their future support for and constructive participation in such teaching activities, the findings and conclusions of this study may be useful to those attempting to estimate the likelihood of adoption of distance education methods as mainstream activities among various faculty subgroups and at different kinds of higher education institutions. The results of this study may also be of interest to change agents, for whom knowledge of

the media preferences of higher education faculty subgroups, and of their previous experience and familiarity with DE, may be useful in choosing approaches to the introduction of DE in college and university settings. The publication of the results of this, the first national survey of faculty at public institutions of higher education in the United States concerning their attitudes toward college-credit distance education, would constitute a significant contribution to the literature.

College-Credit Distance Education Providers

The International Council for Distance Education estimated that about ten million people are enrolled in distance education at all academic levels worldwide. By 1988, about 500 institutions offering 837 programs had responded to a survey by the International Centre for the Study of Distance Education (Kaye, 1988). Access to higher education in developing nations has been hastened by the creation of university-level distance teaching institutions, since "an increase in the number of educated people is achieved faster this way than any other" (Perry, 1986, p. 17).

Granger (1990) listed 21 distance teaching universities (DTU's) or open universities presently in operation around the globe, which enrolled over 2.2 million students annually, and an additional three DTU's still in the planning stages. The model for most DTU's has been the Open University of the United Kingdom (OUUK), which has granted over 70,000 college degrees since its creation in 1969 (Kaye, 1988). An American attempt to create a purely distance teaching institution of higher education, the University of Mid-America (UMA), ended in 1982. Stiff competition from conventional colleges and universities that were accessible to most Americans seeking further education played a large role in the demise of the UMA (Zigerell, 1984). Instead, much of the growth in American distance higher education has occurred within conventional colleges and universities, through independent study programs and participation in interinstitutional consortia. The university extension and continuing education programs of public research universities and

land-grant universities have played an important role in the development of distance higher education in the United States since the first National University Extension Association conference was held in Madison, Wisconsin in 1915 (Wedemeyer, 1983).

By 1990, more than 1800 institutions of higher education in the United States offered college credit for the Public Broadcasting Service's Adult Learning Service (PBS/ALS) telecourses. Over 96% of the nation's public television stations cooperate with these colleges and universities in making the telecourses available by open broadcast. More than a million and a half students have enrolled in college-credit ALS courses since they were first offered in 1981 (PBS Adult Learning Service, 1990), usually through the continuing education unit of a college or university. Over 330,000 learners enroll yearly in college-credit correspondence study courses through colleges and universities accredited by the National University and College Extension Association (Huffington & Others, 1990). Correspondence study is still the most used single method of distance teaching in U.S. higher education. Significant correspondence study enrollments also occur through military and proprietary schools, which enroll two and one-half to three million students yearly (Young, 1984), although most of their programs are occupational or vocational in nature, and not generally considered to be college-level. Other methods of delivering college-credit distance education that are used to a significant extent in the United States include computer-, video-, and audio-conferencing, as well as individualized systems of instruction utilizing technology such as interactive videodisc and computer-assisted instruction.

Attitudes Toward College-Credit Distance Education

Attitudes toward college-credit distance education are infrequently discussed in the higher education literature. However, several research-based studies published in the past 25 years are relevant to the present study of overall faculty attitudes toward college teaching via distance education (Evans & Leppman, 1968; Ging, 1986; Haenni, 1982; Hendrick,

1986; Johnson, 1978; Levine, 1980; Rogers, 1983). Most of these survey-based studies were analyses of the innovation process surrounding instructional television. Ging dealt with the adoption of Annenberg/CPB telecourses in his 1986 dissertation, one of only two relevant studies located that were exclusively concerned with a form of distance education. Barron (1990) studied faculty and administrative staff perceptions of graduate programs in library and information science offered via distance education methods. Rogers (1962, 1983) based generalizations about the innovation process on the findings generated by the authors of a massive collection of previous studies on this topic. He developed hypotheses about many aspects of innovation, including the adoption process, or the process by which decisions are made to adopt or reject an innovation. The literature related to the role of faculty in the diffusion and adoption process played an important part in the present study.

Building on Rogers' (1962) model of the adoption process, Johnson (1978) attempted to account for the variance among university faculty in their attitudes toward the external graduate degree. In his model, receptivity, or willingness to adopt an innovation, was seen as a function of the interrelationships between the professional characteristics of respondents and their perceptions of the feasibility and desirability of adopting the innovation. A somewhat narrower view of receptivity was taken in the present study than was implied by Johnson, who gathered a number of measures of faculty attitude into what he termed a 'receptivity score.' In the present study, receptivity was the subject of a specific, single measure, which is only one of several measures of faculty attitudes.

The literature on the use of instructional media in higher education (Lewis, 1983, 1985; Lewis & Markwood, 1985; Riccobono, 1986a, 1986b; Smith & Ingersoll, 1984) suggested that faculty have more positive attitudes toward some instructional delivery methods than toward others. This led the researcher in the present study to assume that some media that may be used in distance higher education are more adoptable than others. Patterns of use of instructional media in distance education were studied through surveys

by Gunawardena (1988) and Barron (1987). Gunawardena (1988) surveyed the same 40 institutions studied by Lewis (1983), asking about media use in distance education rather than in on- and off-campus programs, as had Lewis, while Barron (1987) compiled data on the use and perceived barriers to use of media in library and information science programs offered at a distance.

Delimitations of the Study

The literature survey contained in this study was delimited to college- credit higher education in the United States. The sample for the survey portion of this study was delimited to 480 persons holding full-time regular faculty positions at public U. S. comprehensive institutions I, research universities, or two-year colleges, in December 1991 and the Spring of 1992, when the survey was administered. The literature search with regard to the attitudes of United States higher education faculty toward college-credit distance education was restricted to items listed in Resources in Education, Current Index to Journals in Education (ERIC), Dissertation Abstracts International (DAI), as well as to documents held by Morris Library, Southern Illinois University at Carbondale, or obtained through Interlibrary Loan.

Limitations of the Study

Many of the studies on faculty attitudes toward college-credit distance education or related topics found in the literature are not generalizable, because they are based on research conducted at no more than a few institutions of higher education. Survey results may not be generalizable to faculty at U. S. institutions of higher education other than public research universities, comprehensive institutions I, and two-year institutions of higher education with general transfer programs.

Definition of Terms

Adoption: the decision to make full use of an innovation as the best course of action (Rogers, 1962).

Correspondence study: study by mail, characterized by heavy use of print media and mailable courseware.

Diffusion: communication of an innovation, through certain channels and over time, among the members of a social system (Evans, 1982).

Distance education: formal education in which educator and learner are separated during the majority of the teaching function; also referred to as 'DE'.

External degree program: a nontraditional college degree program, the majority of which can be completed off-campus.

Independent study: coursework composed of assignments or learning contracts performed independently.

Innovation: an idea, practice, or object that is perceived as new by an individual or other social unit of adoption (Rogers, 1962).

Nontraditional degree program: a college degree program offered as an alternative to the formal educational system, featuring innovative and flexible instructional methods and curricula, credit by examination and for life and work experience, and modified grading systems or degree requirements.

Receptivity: an attitude indicative of the willingness of a person or other social unit to adopt an idea, practice or object.

Teleconferencing: the use of two-way audio, visual or data communications alone or in combination to conduct conferences; audioconferencing, videoconferencing, and computerconferencing are all forms of teleconferencing.

Telecourse: a form of distance education in which a majority of the teaching function is delivered via a combination of video and print media.

Overview of the Study

In Chapter II, the research literature related to the diffusion and adoption of innovation in U. S. higher education is reviewed as it pertains to faculty attitudes toward college-credit distance education. Research paradigms, findings and conclusions compiled from previous studies are analyzed and synthesized in an attempt to describe influences on the attitudes of higher education faculty toward college-credit distance education and related topics.

In Chapter III, the methodology of the study is presented. A survey approach to studying the attitudes of U. S. higher education faculty toward college-credit distance education is described. Development of the survey questionnaire and pilot study, choice of the research sample, survey procedures, reliability and validity of the research design, and data collection are described in this chapter.

In Chapter IV, statistical and content analyses of data are explained. Use of General Linear Model analysis of variance procedures to test assumptions about faculty attitudes toward college-credit distance education are described. Findings are presented, and research questions are answered.

In Chapter V, the summary, conclusions, and recommendations of the study are reported. The study is summarized, conclusions are reached based on the findings, and interpretations, inferences, and recommendations related to the study results are presented.

Chapter II

REVIEW OF THE LITERATURE

In chapter II, the literature related to faculty attitudes toward instructional innovation in general, and distance higher education in particular, is reviewed. The research paradigms, findings and conclusions found in these previous studies are analyzed and synthesized in chapter II in an attempt to describe the attitudes of higher education faculty toward distance education, and to explore the role their attitudes play in the adoption, implementation and success of distance education.

Faculty attitudes toward distance education in the United States are rarely discussed in the higher education literature, and most related studies are concerned with the attitudes of the small percentage of college and university teachers participating in distance education activities. Research on the importance or centrality of the role played by faculty in the adoption, implementation, and long-term success of distance education at colleges and universities in the United States has been relatively sparse, but there is a considerable amount of research reported in the literature on faculty attitudes toward distance education and related topics.

Attitudes

The study of attitudes has been a major focus in higher education survey research. Theory and research suggest that attitudes, or "relatively durable, psychological predispositions" (Alreck & Settle, 1985 , p. 404), are composed of three parts: knowledge (cognition), feelings (affect), and predispositions toward action (conation). The knowledge component consists of cognitive knowledge or beliefs about something -- an object, person, place, idea, or symbol. Affective evaluation or values related to a topic constitute the feeling component. The likelihood of action based upon knowledge and/or feeling is the basis for the action or conative component.

It is not possible to measure attitudes directly. Inferences about beliefs, feelings and predispositions toward behavior must be based on measurement of objective behavior (Henerson, Morris & Fitz-Gibbon, 1987). Knowledge or belief must precede feelings or intended behavior. By studying attitudes and their components, researchers hope to at least partially predict future attitudes and behavior.

The Concept of Innovation

Innovation Defined

Rogers (1962) defined an innovation as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption (p. 13)." Perception is central, said Rogers, since something long in existence becomes an innovation if people see it and treat it as one.

Models of Innovation

Paul (1977) and Ging (1986) described four models or primary cases of innovation: (1) the problem-solving model; (2) the research-development-diffusion (dissemination) model; (3) the social-interaction (communication) model; and (4) the linkage model.

The problem-solving model focuses on the adopter of an innovation, as it involves a search for solutions to problems diagnosed by the potential user, who then undertakes trial implementation and decides to adopt or reject the innovation in question (Pelz & Munson, 1982).

The research-development-dissemination model is "inventor-driven" (Ging, 1986, p. 25), focusing on the creators and distributors of innovations. Its proponents assume that there is a rational sequence of invention and diffusion, from basic through applied research and then through adoption and implementation. Potential adopters are assumed to be rational, immediately implementing innovations judged to be worthwhile on the basis of certain criteria. The improvement of educational practice through dissemination of new

products and methods to a wide audience has been a central goal for many advocates of this model (Clark & Guba, 1965; Havelock, 1969).

In contrast to the problem-solving and research and development dissemination models discussed above, which focus on the creator or the user of an innovation, the social-interaction or communication model (Rogers, 1962; Rogers & Shoemaker, 1971; Rogers, 1983) focuses on the process of diffusion. Existing research related to the sequencing of stages or conditions leading to adoption or rejection and the attributes of innovations and individual or organizational adopters (especially early or late adopters) was compiled and synthesized by Rogers (1962, 1983) and Rogers and Shoemaker (1971) into a series of generalizations about the nature of the innovation process.

Combining Models

The fourth model, the linkage model, can be seen as a combination of the first three models (Havelock, 1969; Lindquist, 1974; Ging, 1986), or as a family of models (Waugh & Punch, 1987). The linkage model as described by Waugh and Punch (1987) has three stages. First, the problems of specific groups of users are identified on a regular basis and problem statements are formulated (problem-solving). Next, new methods or products are created to meet these needs (research-development-dissemination). Finally, diffusion channels are delineated and utilized, and interfaces between creator/distributors and potential users of innovation are established (social-interaction).

Lindquist (1974), amplifying on Havelock (1969), identified the first stage of the linkage model in terms of research, development and dissemination. His second stage, like Waugh and Punch's third stage, concerned the diffusion process (social-interaction). In Lindquist and Havelock's third stage, the final decision making process leading to adoption or rejection of the innovation is seen as the institutional problem-solving stage. Clearly, there is some overlap at the beginning of the R & D and problem-solving models, as there is between the social-interaction and problem-solving models in the end stages.

Methodological concerns and innovation models. Ging (1986) cited the work of Downs and Mohr (1976) who noted the tendency of innovation model makers to fail to distinguish between the "primary" attributes of an innovation, such as cost, which do not vary in different applications, and the "secondary" attributes, such as the relation of the innovation to existing practice in a given application. Downs and Mohr (1976) suggested comparing innovations of the same primary type and using comparative methods to study secondary attributes. Damanpour (1988) found considerable agreement in the research literature on innovation process when studies were grouped on the basis of innovation type, innovation radicalness, and stages of adoption.

Process and variance. Mohr (1978) and Ging (1986) also suggested separating the study of process from the study of variance in innovation research. While process models assume a series of time-ordered events are necessary to produce adoption of innovation, variance models assume a number of independent conditions and causes, which together account for a certain portion of the variance in individual or organizational adoption. Van de Ven and Rogers (1988) argued for a focus on process research. Ging (1986) attempted to heed Mohr's warning by restricting his model to the variance approach.

An integrated model for program evaluation. Recently, Zvacek (1989) integrated the four elements in the adoption and diffusion of innovation as described by Rogers (1983) with four fundamental questions asked in curriculum development and three models from systems theory to create what she termed the Triad Perspective Model of Distance Education. These innovation, curriculum development and systems theory models were integrated vertically by Zvacek to create a model with four horizontal levels, which she used as a framework for examining teacher education at a distance in Zimbabwe. Subsequently, Hsiao (1990) adopted this model in her analytical study of the development of the National Open University in Taiwan.

The present paper, in which the focus was mainly on attitudes toward potential adoption of an innovation, owed much to the social-interaction model both in terms of

adopter/nonadopter variance theory and individual adopter attitudinal process theory, but because this study was descriptive rather than predictive in nature, aspects of both stage and variance theory were referred to in interpreting the data -- without, it was hoped, creating methodological problems.

Attributes of the Innovation Process

The Innovation Process or Diffusion

Rogers (1962) provided a conceptual framework for diffusion, which has been the starting point for subsequent researchers . He characterized the diffusion of innovation as a special kind of communication, in which the exchange of information leads to mutual understanding about new ideas. Evans (1982) cited the early research of Katz and Levin (1959) and Katz (1961), who developed models containing four elements that Evans considered "crucial" to the analysis of the diffusion of innovation: (1) The tracing of an innovation; (2) Over time; (3) Through specific channels of communications; (4) Within a social structure. To these four Evans added a fifth social psychological element, concerning the way individuals react to innovation and participate in the diffusion and adoption process.

According to Evans (1982), diffusion, or the process of adoption of an innovation, is influenced by (1) the attributes of the adoption process, (2) the attributes of the innovation, (3) the characteristics of the individual or social unit, and (4) the nature of the social system in which diffusion takes place. This framework was used in the remainder of this section.

Attributes of the Innovation

Rogers (1962, 1983) and Rogers and Shoemaker (1971) offered five perceived characteristics of the innovation itself, which appeared to be directly correlated with the rate of adoption of an innovation in previous innovation studies:

> (1) Relative advantage(s) -- the degree of superiority of the innovation to the idea(s) it supersedes;
> (2) Compatibility -- the degree to which the innovation is consistent with the values, experiences, and needs of potential adopters;
> (3) Complexity -- the relative simplicity with which the innovation can be used and understood;
> (4) Divisibility or Trialability -- the degree to which adoption can be divided into stages, or used on a trial basis;
> (5) Communicability or Observability -- the degree to which the results of an innovation can be communicated to or observed by other potential adopters. (Rogers, 1983, p. 15-16)

Rogers (1983) cited several innovation studies (Holloway, 1977; Hahn, 1974; Clinton, 1973; Elliot, 1968; Kivlin, 1960), which had tested the applicability of these categories of innovation attributes. The validity of relative advantage, compatibility and complexity as attribute categories received strong support in these studies, while trialability and observability were somewhat less strongly supported (Rogers, 1983).

Compatability and profitability. Levine (1980) found support for the importance of both compatability and profitability (relative advantage) in the innovation literature, both in terms of initial adoption or rejection of an innovation and ultimate institutionalization or termination. He also found these two factors to be significant in his own study of why an experimental college was institutionalized at one major university, but not at another (Levine 1978, 1980).

Attributes of the Individual or Social Unit

Rogers (1962) advanced five categories for potential adopters: (1) innovators; (2) early adopters; (3) early majority; (4) late majority; and (5) laggards. Ging (1986) saw a "pro-innovation bias" (p. 25) in the naming of these categories, which he believed characterized most adoption research. He felt that this kind of attitude on the part of change advocates might harden the resistance of those classified as laggards. A more general differentiation may be made between early and late adopters. Indeed, the study of the characteristics of early and late adopters on innovation is an important theme in the research literature (Rogers, 1983).

Adopters and nonadopters. Many studies of innovation have included research contrasting adopters and nonadopters (for instance, Evans & Leppman, 1968; Rogers, 1983). In his study of the adoption of Annenberg/CPB Project learning materials, Ging (1986) developed five hypotheses about the nature of individual adopters and nonadopters of innovation in higher education based upon hypotheses advanced by Lindquist (1974).

Ging found that telecourse adoption was more likely among those who believed adoption resolved a need or problem. Those learning of the telecourses through established channels, especially telecourse coordinators, were most likely to adopt courseware through Annenberg/CPB. Cosmopolitans, faculty new to the institution, and productive researchers did not appear to be more likely to adopt telecourses. Nonadopters often cited primary barriers to implementation such as cost (Ging, 1986).

Attitudinal progression of potential adopters. Rogers (1983) divided the diffusion process into five stages:

> (1) Knowledge (or awareness) of the innovation;
> (2) Persuasion, in which positive attitude or interest in the innovation grows;
> (3) Decision, in which a commitment to try out or evaluate the innovation is made;
> (4) Implementation (or trial) of the innovation by the potential adopter; and
> (5) Confirmation (adoption) or rejection of the innovation based on a weighing of the costs and benefits. (p. 164)

Mauremeyer (1988) conducted case studies of 11 faculty adopters of writing-across-the-curriculum at a community college, finding support for Rogers' five-stage sequence model. Derr (1991) surveyed 419 technical college faculty on their attitudes toward distance education, finding that most faculty were unfamiliar with the term and with the technologies commonly used in DE delivery, and therefore concluded that most faculty in this college system were at the first stage of the diffusion process, the knowledge or awareness level.

Concerns-based attitudinal progression of adopters. Another stage theory, the Concerns-Based Adoption Model (CBAM), focused on the needs of individual adopters, and their attitudinal progression over time. This model, which has been applied in a

number of instances in research on instructional innovations, has recently been used as a diagnostic tool by distance education course teams (Kember & Mezger, 1990), and has many documented uses in the evaluation of teaching skills acquired during staff development, especially in K-12 settings (Hall, 1986). The CBAM is of special interest to those studying attitudes toward potential adoption. According to Hord (1981), the seven stages of concern for the adopter were:

> 1. Little concern about or involvement with the innovation;
> 2. Interest in learning more about the innovation;
> 3. Personal uncertainty about the innovation's demands and concern about potential conflicts caused by adoption of innovation;
> 4. Concerns about how to use the innovation and get the best information about it;
> 5. Focus on impact of innovation on students and maximizing student outcomes;
> 6. Focus on coordination and cooperation with others about innovation;
> 7. Exploration of the larger benefits of innovation and development of alternatives. (p. 1)

Importance of subjective factors. Brew (1982) felt that too much emphasis was put on external factors and the organizational perspective in attempting to understand the attitudes of individual faculty toward innovation, while subjective factors such as educational philosophy and individual perceptions of a particular innovation were often overlooked. She found that teacher attitudes were a significant barrier to the adoption of Open University course materials at a conventional British university.

Attributes of the Social System

The adoption process of individual faculty members takes place in the context of the academic culture and mission of their college or university. The institutional context of potential adoption of distance education was therefore a relevant topic for the present study. In analyzing data on faculty knowledge of and attitudes toward ITV, Hendrick (1986) utilized a list of generalizations about the diffusion and adoption of innovations in social systems developed by Rothman (1974), who expanded on the research-based generalizations about innovation developed by Rogers (1962) and Rogers and Shoemaker

(1971), but added some original research and generalizations of his own. Several of the generalizations of Rothman, related to the innovativeness of organizations and the rate of adoption in target systems, were used in a modified version by Ging (1986) in his study of the adoption behavior of college and university representatives who inquired about Annenberg/CPB learning materials. Testing Rothman's hypotheses, Ging found that individuals at institutions where similar innovations had been adopted previously, and those at colleges and universities with established diffusion channels, were more likely to adopt telecourses than those at institutions with climates and processes less hospitable to the innovation.

Faculty Roles in Higher Education

Extending Faculty Authority

According to Clark (1987), both collegial control and personal rule on the part of departmental faculty are the norm in four-year U. S. higher education. Faculty extend their authority upward through the administrative structure by means of collegial bodies such as the faculty senate, and outward through professional and disciplinary organizations. As autonomous professionals, said Clark, college teachers are usually responsible for the development of course content for their classes, and have the authority to teach these classes as they see fit. However, Sacken (1990) noted that college teachers do not have an absolute freedom in the classroom. Inadequate or unprofessional instruction has been repeatedly upheld in court cases as a reasonable condition for not granting tenure to professors (Sacken, 1990).

Professional autonomy. Based on a national survey of 9,237 faculty at 249 U. S. institutions of higher education in Spring 1971, Baldridge, Curtis, Ecker and Riley (1978) found that faculty at research universities felt they had more professional autonomy than did faculty at comprehensive institutions of higher education. Respondents from larger, more differentiated institutions offering higher degrees and employing a higher percentage

of doctoral degree-holding faculty reported, on average, that their institutions more fully recognized faculty perogatives such as less explicit external specification of work, less professional travel restrictions, more control of faculty over teaching assignments, and more control by department than administration over faculty hiring and tenure decisions (Baldridge, Curtis, Ecker & Riley, 1978).

Teaching versus research orientation. In a national survey of 5,000 higher education faculty in 1989 (Carnegie, 1989), differences in preferences with regard to research and teaching with respect to institutional classification were evident. Research university faculty reported a preference for research, two-year college faculty a (very strong) preference for teaching, and comprehensive institution faculty a fairly equal preference, although leaning more toward teaching (See Table 2.1).

Roles in the academic department. Dykes (1978) stated that faculty members often see themselves as a group of independent professionals running their own affairs by means of active participation in a relatively autonomous departmental unit (Dykes, 1978), especially at research-oriented universities (Floyd, 1985). The power of the department arises from the special authority of its members in an area of expertise. Trow (1977) contended that departments are inhospitable to external academic innovations, but that weaker departments and institutions are less able to resist externally generated change.

The department chair. Millett (1980) noted the "bottom-up" nature of academic management (which he differentiated from academic governance), (p. 101), in which faculty and their departments make the decisions that determine the quality of teaching, research, and service, with deans and vice-presidents acting in "essentially supportive" roles.

According to Tucker and Bryan (1989), academic chairpersons generally conduct departmental meetings, establish all departmental committees and develop short and long-range departmental plans and goals. The department chair is the evaluator of all faculty in

Table 2.1

Responses of Higher Education Faculty by Institutional Classification to Question 'Do Your Interests Lie Primarily in Research or in Teaching?', 1989 Carnegie Survey

	Primarily in Research (%)	Leaning Toward Research (%)	Leaning Toward Teaching (%)	Primarily in Teaching (%)
All Faculty	6	23	27	44
Research University	18	48	25	10
Comprehensive Institution	8	37	34	21
Two-Year College	1	6	16	77

Source: The condition of the professoriate: Attitudes and trends, 1989, Carnegie Foundation for the Advancement of Teaching (Princeton, NJ: The Foundation, 1989), p.43.

the department, a role critical to departmental progress and quality. Decisions concerning promotion and tenure are generally made collegially by departmental faculty, said Tucker and Bryan, with the chair playing a key role. The chair must be both teacher and cheerleader, they said, keeping faculty informed, maintaining faculty morale, and mitigating conflict between department faculty, while encouraging active faculty participation in departmental processes. Other powers and tasks are shared with the academic dean.

Chairs must involve faculty in decision-making, said Tucker and Bryan, because professors have great control over the carrying out of their own teaching, research and service. Faculty morale and the effectiveness of their absolute rule over their courses, including control of course design, teaching methods, and instructional materials, can be greatly affected if the faculty member does not feel he or she has had sufficient input into the selection and sequence of courses to be taught (Tucker & Bryan, 1989).

The Faculty and Innovation

The importance of faculty

During the Kennedy administration, Millett (1962) wrote that:

> The key element in the academic process and in the academic community is the faculty. There is no other justification for the existence of a college or university except to enable the faculty to carry on its instructional and research activities. Without a faculty higher education has no reason for being. (p. 65)

Nearly three decades later, the president of an innovative external- degree-granting university wrote that:

> No innovation which omits or diminishes the critical faculty role is likely to be recognized as higher learning. Clearly innovation without a faculty is fraudulent. But innovation does often require new or sharply redefined faculty roles. (Hall, 1991, p. 116)

Noting that "The tradition of faculty autonomy is strong, distinguishing higher education from other types of organizations," Kozma (1985) stated that "The personal

nature of the dominant mode of instructional innovation is consonant with this tradition" (p. 316-317). Finkelstein (1984) noted that while many factors shape the adaptive capacity of an institution of higher education, the most critical may be the faculty's adaptive capacity, individually and collectively.

Citing previous studies by Kintsfather (1977), Ittelson (1978), Dykes (1978) and Young (1976), Finkelstein observed that in higher education innovation, "individual factors -- specifically, how faculty felt about participation in the change -- emerged as the single best predictor of participation "(p. 130). Finkelstein concluded that faculty participation in innovation was "a function of an internal standard -- how such participation squares with personal and professional needs -- rather than organizational pressures and incentives (p. 130)."

Finkelstein distinguished between the general receptivity or resistance to innovation of faculty, as evidenced by flexibility (Evans & Leppman, 1968), open mindedness and a lower degree of dogmatism (Kazlow, 1977), and innovation-specific receptivity or resistance. Noting the striking differences between the characteristics of general curriculum change advocates (Kazlow, 1977), and instructional TV proponents (Evans & Leppman, 1968), Finkelstein (1984) concluded that:

> Quite beyond any general receptivity factor, faculty tend to evaluate an individual change or innovation, curricular or otherwise, on multiple dimensions--its feasibility and desirability in their field (Johnson, 1978), their familiarity with it (ibid), and how it is likely to affect their organizational status (Kazlow, 1977) -- and to reserve their support for those changes that pass their own idiosyncratic muster. (p. 130)

Faculty Attitudes Toward Instructional Innovation

Many studies of U.S. higher education faculty attitudes toward instructional innovations, including the use of nontraditional media and methods in the teaching process, have been performed in the past 25 years. It was not within the scope of this study to

describe the results of the multitude of studies in the literature of higher education related to faculty attitudes toward instructional innovation.

Those related studies appearing in ERIC from 1981 to date which were considered to be most relevant to the study of college faculty attitudes toward distance education appear below. This section of the survey of related literature focuses largely on recent studies of faculty attitudes toward instructional innovation higher education in : (1) educational technology; (2) external and nontraditional degree programs; and (3) distance teaching.

Faculty Attitudes Toward Educational Technology

Many authors have attempted to analyze the reasons for faculty adoption or nonadoption of educational technology. Gayeski (1989) offered an overview of the relative success of media in education since the 1950s. While there had lately been a resurgence of interest in instructional television (ITV), said Gayeski, ITV has been "the most visible and memorable failure among instructional media" (p. 9), despite large-scale government and private grants. Programmed instruction and dial access tapes have come and gone, she said, and in recent years videotex and interactive --- have failed to establish footholds. At the same time, videos and visual aids such as overheads and slides have become very popular. Reasonably successful innovations, said Gayeski, have included videoconferencing, CAI, Interactive video, CD-ROM, and artificial intelligience.

Lewis (1985) conducted an in-depth study of college faculty attitudes toward instructional technology. After identifying pertinent instructional problems with the help of 81 faculty from two- and four-year institutions of higher education participating in ten focus groups, Lewis (1985) conducted further focus groups with 173 two- and four-year higher education faculty from eight institutions about their perceptions of audio, video, and computer technologies. After viewing a videotape demonstrating 12 examples of media use in higher education, participants in the second round of focus groups completed a

questionnaire about their attitudes toward the use of audio, video and computer technologies in teaching.

Increasing effectiveness as a teacher and motivating students were the most commonly given reasons by participants in Lewis' study for using technology in instruction. Respondents viewed computer technology more favorably than video technology in increasing teaching effectiveness, but favored video for the task of motivating students. Both computer and video technology were viewed more favorably than audio technology. Lewis found that faculty saw the potential for these technologies quite favorably overall, and considered them useful tools with which to address difficult instructional problems. However, faculty participating in the study also saw significant barriers to the use of these technologies in college instruction, and voiced significant reservations about their place in college teaching (See Table 2.2).

Faculty Attitudes Toward External and Nontraditional Degree Programs

The external degree at a research university. Johnson (1984) surveyed faculty at the University of Michigan, finding that they held surprisingly positive attitudes toward external degree programs. In a survey of 418 faculty from all colleges and departments of the university conducted between 1976 and 1978, about 66% of respondents reported that they were very or somewhat positive about the general concept of an external degree. Around 83% looked favorably upon university sponsorship of the external degree, while more than six in ten held positive attitudes toward sponsorship of such programs by their academic department, and looked positively upon the possibility of their own personal participation in such a program. The best predictors of receptivity in the Johnson study were the perceived feasibility of the external degree in the respondent's own field, the agreement of the respondent with the goal of greater access to education, and the degree to which the respondent saw alternative degree programs to be desirable.

Table 2.2

Percentage of Higher Education Faculty Citing Obstacles to More Effective Use of Information Technologies in Higher Education, 1985 Lewis Study

Rank[1]	Potential Obstacle[2]	% Citing Item As Obstacle[3]
1.	Inadequate financial resources to obtain necessary software and hardware	95
2.	Inadequate rewards and incentives to encourage faculty to get involved with the technologies	83
3.	Lack of courseware available that meets the institution's academic needs and standards	82
4.	Logistical complexities involved in supporting students learning off campus through technology	75
5.	Lack of reliable evaluation information about available media courseware	74
6.	Faculty who are unsympathetic to the use of video and audio technologies	72
7.	Inadequate information about current educational applications by other colleges and universities	71
8.	Faculty who are unsympathetic to the use of computer technology	65
9.	Inadequate support and advice from state policy makers	63
10	Inadequate knowledge about information technology on the part of state policy makers	62
11.	Administrators who are unsympathetic to the use of information technologies	41
12.	Unwillingness of educational institutions to cooperate with one another to use the technology	36
13.	Inadequate cooperation from public broadcasting agencies	33
14.	Inadequate cooperation from cable television companies	33

Source: Lewis, R. J. (1985). Instructional applications of information technology (Boulder, CO: WICHE), p. 3

[1] Ranking of potential obstacle by participating faculty among 14 alternatives

[2] Potential obstacles to the effective use of information technologies

[3] Percentage of respondents indicating item was of major or minor importance as an obstacle to effective use of information technologies

University without walls programs. Medsker and Associates (1975) surveyed faculty at 18 U. S. universities that were the sites of special or nontraditional degree programs, finding that participating faculty were more favorable than nonparticipating faculty toward the nontraditional degree, and that skepticism tended to decrease with experience. Similarly, University Without Walls program faculty at seven colleges and universities surveyed by Stetson (1979) were more likely to rate the curricular quality of their nontraditional UWW programs the same or better than the traditional curricula than were their non-UWW colleagues on the same campus.

Agriculture faculty attitudes. Nolan, Anderson and Mowrer (1977) surveyed College of Agriculture faculty at the University of Missouri at Columbia to determine their attitudes toward a baccalaureate external degree program that had recently been instituted in their college. About two in three of the 337 faculty surveyed provided usable responses. Seventy-two percent agreed that bachelor-level competency could be achieved in such a manner, and only 23% felt that the establishment of the nontraditional degree lowered the college's standards. Almost eight in ten thought that the use of innovative degrees to meet special needs should be encouraged, while 89% felt that their college was correct to institute such a program, based on the college's mission.

A majority of responding faculty felt that the college's faculty were not sufficiently involved in the program, and a majority also favored the continuation of the program for an extended period, but only 35% thought that faculty would be likely to participate in the program. Sixty percent thought that involvement would be at the expense of other activities, yet only 14% opposed the program (Nolan, Anderson & Mowrer, 1977).

International faculty and external study. Perhaps the prototypical external degree studies program is that of the University of New England in Australia, an institution at which most faculty are required to engage in both internal teaching and external teaching (including off-campus classroom and distance study), and where continuous research has been performed on comparative effectiveness for over 30 years. In a survey of the

attitudes of the entire academic staff toward internal and external teaching in March 1981 (Clark, Soliman, & Sungaila, 1984), 124 faculty (about one-third of the total) gave useful responses. About one-third of respondents reported enjoying teaching externally more, about one-third preferred internal teaching, and about one-third had no preference, with those who found external teaching more demanding (science, resource management and arts teachers, for example) more likely to report a preference for external teaching. A majority of faculty felt both that external teaching improved their internal teaching, and that internal teaching improved their external teaching.

A similar Australian study was conducted at the Brisbane College of Advance Education, where 87 of 144 staff teaching both externally and internally responded to a survey on attitudes toward external studies (Scriven, 1986). Almost three in four respondents disagreed with the statement, "I would avoid teaching external students if I could," but 59% agreed that they preferred teaching internal students. Sixty-four percent disagreed with the statement, "I feel that teaching external students lacks status".

Overall Faculty Attitudes Toward Distance Teaching in Higher Education

No previous studies were found in the literature in which an attempt was made to determine overall U. S. college and university faculty attitudes toward the concept of distance education or the media and methods commonly used in its provision. A number of studies reported in the literature focused on the attitudes of faculty teaching at a distance toward this teaching method, usually as part of an overall program evaluation, but only a few studies concerned the attitudes of faculty as a whole, both participants and nonparticipants in distance education, toward teaching at a distance, and these studies were concerned only with one or a few institutions of higher education.

Faculty attitudes at two research universities. Based on the 93 usable surveys returned by a stratified sample of 213 assistant, associate and full professors at two public Land-Grant research universities, Colorado State University (CSU) and the University of

Wyoming (UW), Bankirer (1987) concluded that the greatest differences in receptivity were between faculty as a whole at the two institutions, with CSU faculty being significantly more favorable to media-based teaching, including distance education, than were faculty at the University of Wyoming, despite similar missions and service regions. CSU faculty were more likely to report that they had ever made extensive use of media in teaching (41%) than were UW faculty (29%), and were also more likely to report experience in continuing education, extended studies and outreach teaching.

While surveyed faculty at both universities agreed that continuing education and outreach services were a vital part of university service, almost eight in ten respondents agreed that the rewards and recognition for the time and effort of preparing for teaching with technology were inadequate, and that face-to-face classroom instruction was the most effective way to teach. However, 95% of CSU respondents and 77% of UW respondents agreed that technology could "effectively extend the reach of the university (p. 60)."

Technical college system faculty attitudes. Derr (1991) surveyed 419 full-time instructional staff on 13 campuses of the Minnesota technical college system. Primarily interested in finding barriers to the use of distance learning methods and individual learner technologies, Derr found that 75% of respondents did not consider themselves very familiar with distance learning technology. Using Rogers' diffusion of innovation theory as a basis for classification, he concluded that a majority of faculty in this system were still in the first stage of the innovation process, the knowledge stage. Derr felt that this simple lack of knowledge was a significant barrier to the adoption of distance education in Minnesota technical colleges. Staff training was suggested by Derr as a partial solution. Derr also subjected 530 open-ended answers to content analysis, obtaining insight into barriers to adoption and strategies to overcome them.

Two-year faculty in an innovation consortium. Bunting (1990) surveyed students, teachers and administrators at 20 institutions of higher education belonging to the League for Innovation in the Community College as part of a study intended to increase

understanding of those involved in the delivery of distance education via satellite. Four hundred faculty were surveyed, 20 from each of the 20 individual institutions surveyed, with 285 (71%) providing usable responses. Presidents and Deans of Instruction and of Occupational Education (where applicable) on each campus were also surveyed, and 43 (72%) provided a usable response.

Bunting found the faculty and administrators surveyed to be familiar with general terms such as 'teleconferencing' and 'interactive video', but not with more technical terms such as 'satellite uplink' and 'Ku-band'. Administrators were significantly more familiar with both general and technical terms than were faculty.

Bunting asked several indirect questions about respondent attitudes toward satellite education, receiving a largely positive response from eight to nine in ten faculty and administrators to statements such as "Offering courses to other colleges by satellite is an exciting idea" and disagreeing in equal numbers with the statement "I think using new technologies to teach is of little value". Social science and health science faculty were slightly but significantly more likely to indicate negative attitudes toward satellite education and the use of new technology in teaching.

While the lecture was the dominant mode of classroom teaching for the large majority of teachers surveyed by Bunting, faculty respondents who also reported using discussion group methods and media were more likely to favor experimenting with educational technology. Responding faculty who relied heavily on the lecture appeared to be less convinced of the benefits of technology in education.

Faculty attitudes at individual institutions. Two studies were located in which faculty at single institutions were surveyed about their attitudes toward distance education. Stinehart (1987) found that instructors who were receptive, or willing to teach at a distance, were more likely to believe that they would retain control over the instructional process when teaching at a distance than were instructors unwilling to teach at a distance. The previous use of electronic media for instruction was also an important predictor of

receptivity. Contrary to one of the researcher's hypotheses, neither group perceived institutional support for distance education, or the lack of it, as an important factor in their willingness to participate.

Ainsworth (1988) reported a study of faculty and administrator attitudes toward teleclasses at Governors State University in Illinois, in which 40 faculty and 32 administrators provided usable responses. On a scale from '1' (very satisfactory) to '5' (less than satisfactory), 37% of faculty responding gave GSU teleclasses a rating of "very satisfactory," and none gave them a less than satisfactory rating. Fifty-three percent of administrators sampled gave teleclasses the highest rating, while only 11% gave them a "less than satisfactory" rating.

A study of U. S. college faculty expressing interest in DE. Ging (1986) conducted separate surveys of 630 U. S. higher education faculty and 598 administrators who had requested preview materials about Annenberg/CPB telecourses. Usable questionnaires were returned by 107 faculty adopters, 240 faculty nonadopters, and 167 administrators. Reactions to content and technical quality and curricular adaptibility, which together formed "academic usability," were the best predictors of telecourse adoption. Cost considerations and predisposition toward instructional television were also predictors of adoption, as were the influence of the person who introduced the adopter to telecourses, anticipation of institutional approval and support, general support for innovation among innovators at the institution, and a history of successful innovation within the institution.

Attitudes of Participating Faculty Toward Distance Teaching in Higher Education

While there have been many related studies of participating faculty attitudes, studies involving sufficient numbers of teachers to guarantee statistical validity have been far fewer. A number of evaluation studies of distance education projects and activities have included surveys of participating faculty. The large majority of these studies reported favorable attitudes toward the project or activity in question on the part of participating

faculty, although most also reported negative factors mentioned by the teachers who took part. The major emphasis in this study was on the attitudes of faculty in general rather than the attitudes of participating faculty, but some of the more relevant studies on participating faculty are reported below.

Open University in the U. S. teachers. Hartnett, Clark, Feldmesser, Gieber and Soss (1974) conducted a highly detailed survey of regular faculty at the University of Houston, the University of Maryland, and Rutgers University who taught Open University courses in 1972 and 1973. Thirty-five of the 40 faculty responding to the questionnaire said that they enjoyed coordinating Open University courses and wanted to continue this work the following year, despite what they perceived as a larger time demand in these courses than in the conventional courses they had taught.

Faculty surveyed for this study generally rated the quality of the Open University course materials as good to excellent, and felt that their students received excellent training in basic concepts and principles needed for second-level courses in their fields, although some felt further preparatory coursework was needed. Those few faculty with negative entering opinions of Open University courses often reported more positive views of course materials, course locations, modes of instruction, and working with nontraditional students after taking part in the program.

Telecourse faculty attitudes. Dillon (1989) surveyed 82 of the 100 faculty at Oklahoma institutions of higher education who taught telecourses broadcast over the Oklahoma Educational Television Authority in Summer 1988. She followed up with interviews of 35 of the responding faculty, and the chief academic officers and telecourse coordinators at five of the institutions that took part in telecourse questions. Dillon found that in general, surveyed faculty were positive toward telecourse teaching, as eight in ten indicated they were willing to volunteer to teach a telecourse again. However, only about four in ten participating faculty felt that their nonparticipating faculty peers perceived telecourses as positively as they did.

Over eight in ten telecourse faculty in Dillon's study felt that telecourses were equal or greater in quality than equivalent conventional courses, while 79% felt that students in telecourses performed as well or better than conventional learners in the same courses. Lack of contact with students was the weakness of telecourse education cited most frequently by participating faculty. Most of the responding faculty perceived their telecourse work loads as equal to or greater than their conventional course work loads, due to paper work and the need to meet with students individually.

Summary

In this chapter, the research literature related to the diffusion and adoption of innovation in U. S. higher education as it pertains to college-credit distance education was reviewed. Research paradigms, findings and conclusions were compiled from previous studies in an attempt to describe approaches to the study of the attitudes of higher education faculty toward college-credit distance education and related topics.

While coherent, integrative approaches to theory are now emerging in innovation research, previous research on higher education faculty attitudes toward instructional innovation in general and distance education in particular can best be described as fragmented and unsystematic. Theories of adopter/nonadopter characteristics and of the attitudinal progression of potential adopters were relatively well developed, and were most relevant to the present study.

While faculty at U. S. colleges and universities are very diverse, certain characteristics tend to be shared by college teachers in general and at particular kinds of institutions. To a large degree, faculty see themselves as autonomous professionals in their teaching duties, who may have a greater allegiance to their department or discipline than to their institution. This is especially true of research university faculty, who, unlike two-year faculty, are more likely to prefer research

to teaching, and to see publication as critical in achieving tenure. Comprehensive university faculty appear to fall between research university and two-year faculty in their role preferences and perceptions of the institutional context of their positions.

The research literature on faculty attitudes toward educational technology and nontradititional and external degree programs, representing as it does that part of the related instructional innovation literature most closely related to distance education, suggested openness to these kinds of innovation on the part of college faculty, but also substantial skepticism. As is the case with innovation theory in general, this related literature, while fairly extensive, is fragmented and lacking in terms of systematic followup of previous studies.

The literature on the attitudes of higher education faculty as a whole toward distance education has grown quickly in the last few years, but still constitutes only a relative handful of studies. These previous studies suggested that college faculty were open but skeptical in their attitudes toward distance education, as they were toward related instructional innovations. While none were both national in scope and representative of faculty as a whole in terms of those surveyed, these previous studies are quite relevant for those conducting similar studies.

In the following chapter, Chapter III, the methodology of the study is presented. A survey approach to studying the attitudes of U. S. higher education faculty toward college-credit distance education is described, as are the development of the survey questionnaire and pilot study, the choice of the research sample, development of survey procedures, and the process of data collection.

Chapter III

METHODOLOGY

In this chapter, the manner in which the research for the present study was carried out is presented. First, a rationale for the choice of the survey sample and the manner in which it was carried out is detailed. Following this, the procedure followed in conducting the survey is described. Finally, the development of the survey instrument and its relation to the research questions is described.

Choosing the Survey Sample

Stratification of institutional sample. Because it was not economically feasible to survey every type of faculty member, based on rank and employment status, at every kind of institution of higher education in every state, an attempt was made to choose a narrower but representative population of faculty employed by colleges and universities in the U. S. National education statistics were used as a guide in determining the representativeness of the sample chosen for the present study. It was decided to find a way to select faculty from public colleges and universities belonging to a limited number of classes of higher education institutions, based on faculty numbers and faculty characteristics in institutions belonging to the different institutional classes (Carnegie, 1987; See Table 3.1).

Faculty numbers. In 1987, about 770,000 regular and temporary faculty were employed in institutions of higher education in the United States. Around 119,000 were employed by public research universities, 96,000 (81%) of them full-time and regular. About 130,000 faculty worked for public comprehensive universities, 93,000 (72%) full-time and regular . At public two-year institutions, close to 201,000 were employed, and about 90,000 (44%) were full-time and regular (NCES, 1991b). In other words, these three types of public institutions of higher education employed roughly equivalent numbers

Table 3.1

Number of U. S. Public Institutions of Higher Education, and Full-time Regular Faculty Employed, by Carnegie Classifcation

Carnegie Classification[1]	Number of Institutions	Full-time Regular Faculty (thousands)(%)[2]
Research Universities I	45	
Research Universities II	26	
All Research Universities	71	96 (28.9%)
Doctorate-Granting Universities I	29	
Doctorate-Granting Universities II	34	
All Doctorate-Granting Universities	63	36 (10.8%)
Comprehensive Institutions I	285	
Comprehensive Institutions II	47	
All Comprehensive Institutions	332	93 (28.0%)
Liberal-Arts Colleges	31	2 (.6%) [3]
2-Year Institutions	985	91 (27.4%)
Specialized Institutions	66	4 (1.2%) [4]
Total, All Public Institutions	1548	322 (100%)

[1] Based on Carnegie (1987); 1987 figures are latest available.

[2] Based on 1988 Survey of Postsecondary Faculty (NCES, 1991b).

[3] Estimate based on 39,000 faculty at all public and private liberal arts colleges, of which 31 of 564 colleges (5.5%) were public, so that about .055 x 39,000 = 2,145 faculty worked at public liberal arts colleges.

[4] Estimate based on 43,000 faculty at all public and private specialized institutions, of which 66 of 643 institutions (10.3%) were public, so that about .103 x 43,000 = 4,429 faculty worked at public specialized institutions.

of full-time regular faculty in 1987. In addition, 36,000 regular, full-time faculty were employed at doctorate-granting universities

Existing national higher education statistics did not provide complete breakdowns by Carnegie Classification of full-time regular faculty numbers (See Table 3.1). Separate listings were not provided for public research universities I and II, public doctorate-granting universities I and II, or public comprehensive institutions I and II (NCES, 1991a, 1991b). More importantly, public and private liberal arts colleges and specialized institutions were also not listed separately. Extrapolating faculty figures for the latter two Carnegie Classifications at 2,000 and 4,000, respectively (See footnotes 4 and 5, Table 3.1) resulted in an estimate of 322,000 total public full-time regular faculty employed in U.S. higher education in 1987.

Based on the figures given in Table 3.1, faculty at public research and comprehensive universities and public two-year institutions constituted about 87% of public higher education faculty in 1987. For the purposes of achieving an efficient stratification and presenting useful contrasts, public doctorate-granting university faculty, who lie between faculty at research and comprehensive institutions in terms of their commitment to research and to teaching (see following section), and who constituted only about 11% of all public higher education faculty, were excluded from the sample for the present study.

Faculty at public comprehensive institutions II were also excluded from the survey, based on their numbers. Because only 47 (14.2%) of 332 total comprehensive institutions were of this type, and because comprehensive institutions II were by definition smaller, and employed, on average, fewer faculty (for purposes of an estimate, perhaps half as many), it may be estimated that only about seven percent of public comprehensive institutions faculty in 1987 worked at comprehensive universities II. It was hoped that letting the 93% of comprehensive institution faculty who worked at comprehensive institutions I represent comprehensive institutions overall in choosing the survey sample would not seriously jeopardize the representativeness of the sample.

Because less than one in ten public two-year colleges nationally do not offer a general transfer program (Peterson's Guide, 1992), it was also decided to omit faculty from two-year colleges that offered only vocational or technical programs from the sample for similar reasons, and let faculty from two-year colleges with general transfer programs represent two-year colleges overall. Faculty at public liberal arts colleges I and II (.6% of all public higher education faculty), and at public specialized institutions (1.2% of all public higher education faculty), were also omitted from the survey, based on their numbers. This left three fairly equivalent groups of faculty by institutional classification -- faculty at public research universities, at public comprehensive institutions (as represented by public comprehensive institutions I faculty), and at public two-year colleges (as represented by faculty from public two-year colleges with general transfer programs) -- from which to choose the institutional sample.

If the survey sample was to roughly approximate U. S. higher education as a whole, a ratio of three four-year institution faculty members to every faculty member from a two-year college was needed (NCES, 1991a). The ideal ratio (in terms of making the survey representative, given the limitations of the sample), would be attained if about 75% of the faculty sampled were employed by public comprehensive universities or by public research universities, and 25% by public two-year colleges.

Ensuring Demographic Representativeness

Besides raw numbers, characteristics of faculty as a whole nationally such as gender, age, ethnicity, and academic rank, and position titles needed to be considered in choosing a survey sample. National education statistics (See Table 3.2) were consulted for this reason.

Gender, age, and ethnicity. The full-time faculty of public research universities were four-to-one male in 1988, while public comprehensive university faculty were about three-to-one male and two-year institutions were nearly two-to-one male (See Table 3.2). The

Table 3.2

Selected Characteristics of Full-Time Regular Faculty at Public Research Universities, Comprehensive Institutions, and Two-Year Institutions of Higher Education in the U. S., 1988

Selected Characteristics	Institutional Classification			
	Research Universities	Comprehensive Institutions	Two-Year Institutions	All Institutions
Total (in thousands)	96	93	91	280
As % of All Institutions	34.3	33.2	32.5	100.0
Gender				
Male (%)	79.3	71.1	62.1	71.6
Female (%)	20.7	28.9	37.9	28.4
Ethnicity				
White, non-hispanic (%)	90.4	86.0	91.0	89.5
Black, non-hispanic (%)	1.6	3.5	3.0	3.2
Hispanic (%)	2.4	2.1	3.5	2.3
Asian (%)	4.8	5.8	1.6	4.2
Age				
29 or younger (%)	1.1	1.6	2.2	NA
30-34 (%)	7.1	7.9	8.5	NA
35-39 (%)	16.5	12.5	14.4	NA
40-44 (%)	15.2	15.7	19.8	NA
45-49 (%)	18.5	21.2	19.9	NA
50-54 (%)	14.8	15.3	9.9	NA
55-59 (%)	12.1	13.2	13.6	NA
60 or older (%)	14.7	12.6	11.7	NA
Academic Rank				
Professor (%)	45.3	37.2	15.6	NA
Associate Prof. (%)	28.1	26.5	9.5	NA
Assistant Prof. (%)	21.2	23.4	10.9	NA
Instructor (%)	2.7	8.7	33.3	NA
Lecturer (%)	2.7	3.0	0.7	NA
Other (%)	0.1	1.2	1.7	NA
No rank (%)	NA	NA	28.3	NA

Source: U. S. Department of Education, Office of Educational Research and Improvement, Digest of education statistics, 1991, Table 208, p. 220. Derived from the National Survey of Postsecondary Faculty, National Center for Education Statistics, 1988.

age ranges were similar at these three types of institutions, with most faculty in their thirties, forties or fifties. About nine in ten faculty were non-hispanic whites (NCES, 1991a) (See Table 3.1). Because of the restricted nature of the faculty sample for the present study, it would not be possible to reach any meaningful conclusions about the variance in faculty attitudes toward distance education on the basis of ethnicity, and therefore ethnicity was not included among the demographic characteristics that respondents to the present study were asked to report.

Tenure and rank. In 1987, about two of every three full-time regular faculty at public four-year colleges and universities in the United States held tenure, as did a little over half of the full-time regular faculty employed by public two-year institutions. Only about one percent of public four-year institutions did not have a tenure system, compared with 38% of public two-year colleges (NCES, 1990). Public two-year institutions were most likely to call their faculty instructors, lecturers or professors (without rank), although those with tenure systems often designated their faculty as assistant, associate or full professors, as is the common practice at four-year institutions (NCES,1991a).

Faculty titles. In 1988, public two-year institutions as a whole were most likely to call their faculty members instructors, lecturers or professors (without rank), although many had assistant, associate and full professor positions, according to the NCES (1991a) (See Table 3.1). This lead to the choice for the present study of non-chair two-year faculty for the survey on a random basis rather than by tenure status.

Procedure

Selecting the Sample

In an attempt to gauge the opinions of regular full-time higher education faculty overall in the United States toward distance education, a stratified sample of faculty were surveyed at public research, comprehensive, and two-year institutions of higher education in the United States. The sample was composed of regular full-

time faculty at 57 public institutions of higher education located in the United States. The methods by which the number of particular institutions within each institutional classification and the number of faculty at each institution needed for the survey were chosen is described in the following sections.

Choosing the number of institutions in the study. It was initially decided that due to budgetary restrictions, the maximum number of respondents to be included in the survey sample was 500. Based on the simple ratios described earlier in this chapter, this suggested selecting about 187 faculty from both public research universities and public comprehensive universities, and 125 from two-year colleges. It was also decided at the onset of the study planning process to conduct mailings and followups at four-year institutions both directly to potential respondents and through campus coordinators appointed on individual campuses by assistants to the president, attempting to obtain a four-year sample about evenly divided between the two mailing methods.

Two mailing methods. Both direct and coordinator mailing methods were used in conducting the survey. Because campus coordinators for the coordinator mailing would have to be appointed by persons on each campus who would have to be asked in writing to obtain the assistance of such coordinators for this mailing, and there was no way of predicting how many coordinators would actually take part in the mailing, the mailing of requests to participate in the coordinator mailing had to precede the choice of a sample for the direct mailing, if the number of faculty eventually chosen for inclusion in the survey was to be approximately 500.

At this point, it was also decided that nine faculty members would be chosen on each four-year campus. If half of the four-year faculty surveyed would ideally constitute a population of about 187, this meant that about 20 four-year institutions would be needed in the coordinator mailing and 21 in the direct mailing (or vice versa), to go along with the 125 two-year college faculty in the direct mailing, in

order to get a total sample of 500 respondents. Since there were 96,000 full-time regular research university faculty and 93,000 such comprehensive institution faculty in 1987 (representing comprehensive universities I and II), it was decided that 21 research universities and 20 comprehensive institutions I should be included in the mailing overall.

Choosing institutions for the coordinator mailing. Letters explaining the proposed survey and requesting the appointment of a campus coordinator to administer the survey locally were mailed to persons identified by the HEP Directory as assistants to the president, or their equivalent, at the 71 U. S. institutions of higher education classified as public research universities, and at 60 universities classified as comprehensive institutions I.

The 60 comprehensive universities included in the request to participate were chosen from among those public comprehensive institutions I located in the 16 states in which eight or more public comprehensive institutions I were located. Those institutions of higher education listed as comprehensive institutions I in the 1987 Carnegie Classification were identified and counted on a state-by-state basis (Carnegie, 1987). Six comprehensive institutions I from each of the three states with the most institutions of this kind, and three from each of the next 14 states in terms of numbers of comprehensive institutions I, were chosen and sent requests to participate in the coordinator mailing.

In deciding to send 60 public comprehensive institutions I and all 71 public research universities requests to participate, it was assumed that comprehensive institutions I would be somewhat more likely to appoint coordinators than research universities, due to the larger number of requests to participate in surveys that probably result from the latter type of institution's greater prestige and visibility.

Actual compliance with requests to participate was lower than expected. Only ten research universities and eight comprehensive institutions I appointed campus

coordinators to take part in the coordinator mailing. This meant that 11 research universities and 12 comprehensive institutions I had to be chosen for the direct mailing in order to obtain the desired sample size.

Selection of comprehensive institutions I for direct mailing. Four-year institutions were chosen for the direct mailing from among the 60 research universities and 52 comprehensive institutions I that had not provided campus coordinators for the coordinator mailing. Ten additional comprehensive institutions I were chosen from which to choose faculty for the survey, so that when all 20 of the institutions of this type chosen for the direct and coordinator mailings were combined, two public comprehensive institutions I had been chosen from each of the three states with the most institutions of this type (from 17 to 23 located in each state), and one had been chosen from 14 of the next 16 states with the next largest numbers of public comprehensive institutions I (from 7 to 15 located in each state).

In choosing the ten additional comprehensive institutions I for the direct mailing, the same random procedure used later in choosing faculty (See Appendix C) was employed, using a counting number chosen from a table of random numbers (Rand Corporation, 1955), to choose the desired number of this kind of institution from alphabetical lists within each state. After this procedure had been performed with the top three states, a similar procedure was used with those states among the next 16 top states from which no institution had decided to participate in the coordinator mailing. Two states from this group of 16 states were excluded through the use of a similar random procedure, and then one institution was chosen, again through a similar random procedure, from each of the states remaining from the original group of 16, giving a total of 20 comprehensive institutions I whose distribution roughly approximated that of this kind of institution of higher education in the United States.

Selection of public research universities for direct mailing. In choosing 11 additional public research universities for the direct mailing, the same random procedure used later in

choosing faculty was once again used to choose the desired number of this kind of institution from alphabetical lists within each state. After this procedure was performed with the top state (in which seven universities of this type were located), a similar random procedure was used in those states among the next 20 top states (two to three universities of this type located in each state) in which no institution had decided to participate in the coordinator mailing. After two states from this group of states were excluded through a similar random procedure, one institution was chosen, again through a similar random procedure, from each of the states remaining from the original group of 20 (after excluding the one state in this group from which both public research universities had decided to participate in the coordinator mailing), giving a total of 21 public research universities whose distribution roughly approximated the overall distribution of this kind of university in the U. S.

After compiling a state-by-state list of public two-year colleges, noting enrollment and the presence or absence of general transfer programs at each institution, using Peterson's Guide to Two-Year Colleges (1992), it was decided, since less than one in ten such colleges did not have a general transfer program, to exclude those institutions with only technical or occupational curriculums, assuming, for the purposes of the present survey, that faculty at institutions with general transfer programs were representative of faculty at all public U. S. two-year colleges (much as it had earlier been assumed that faculty at comprehensive institutions I were representative of faculty at all comprehensive institutions).

In order that faculty chosen might be from institutions of a size similar to that of the four-year institutions used in choosing the rest of the sample, those public two-year colleges from which the two-year sample was chosen were required to have a full-time equivalent enrollment of 6,000 or more. Using the random procedure cited above, three two-year colleges were chosen from the state with the most colleges fitting the stated criteria (79 such colleges were located in this state), and two colleges were chosen from

each of the next three states in which the most colleges of this kind were located (14-18 colleges fitting these criteria were located in each). After a similar procedure was used to randomly choose seven of the next ten states in which the most colleges of this kind were located (4-12 colleges fitting these criteria were located in each), one two-year college was chosen from each of these seven states. Faculty for the survey sample were then selected from the 16 public two-year colleges with general transfer programs and enrollments of 6,000 or more, which had been chosen in this manner.

Choosing stratified faculty samples at each four-year institution. Nine faculty were chosen for the survey at each of 21 public research universities, and at each of 20 comprehensive institutions I (referred to also herein as comprehensive universities). A random procedure (See Appendix C) was provided for use by coordinators in choosing faculty from current departmental listings on their campus, and was also used to choose faculty for the direct mailing from the faculty listings in the latest available institutional catalogs. The names and addresses of faculty chosen from catalogs for the direct mailing were double-checked in the 1992 National Faculty Directory, and those faculty selected who were not listed in this reference, which was assumed to be more current than institutional catalogs, were replaced using the same random procedure.

At both research and comprehensive universities, the department chair was chosen, and one tenured professor besides the chair and one nontenured but tenure-track professor were chosen by this random procedure from each of three departments -- Chemistry, Marketing, and Political Science, or their equivalent. These three departments or disciplines were chosen because they were perceived as moderately innovative in terms of their use of distance education and other media-based methods of instruction as reported in the literature, and because they could be found at most public universities within separate schools or colleges. Chairs were surveyed because of their importance in determining the future direction of teaching

innovation and program development in their departments (Kozma, 1985; Tucker & Bryan, 1989).

Choosing stratified faculty samples at each two-year institution. In choosing faculty for the direct mailing from each of 16 public two-year colleges with general transfer programs (also referred to herein as two-year colleges), the same random procedure was used (See Appendix C), with minor modifications. Faculty listings provided in the most recent college catalogs on microfiche were used in this process, and names and addresses double-checked in the National Faculty Directory.

Because most of the 16 two-year colleges included in the study had divisions containing faculty from several disciplines rather than individual departments as their basic academic units, the division chairs representing the three disciplines of Chemistry, Marketing and Political Science were chosen at these institutions just as department chairs had been chosen at four-year institutions. Some institutions located these three disciplines within two divisions rather than three, and at these two-year colleges only two chairs were surveyed.

In addition to the division chairs, six faculty -- two each from the disciplines of Chemistry, Marketing, and Political Science -- were selected by the same random procedure at each of the 16 two-year colleges chosen for this purpose, without regard to tenure, rank or title. It was decided to choose two-year faculty regardless of rank or title because of the relatively small proportion of two-year faculty indicated as participants in tenure systems in the 1988 survey of higher education faculty (NCES, 1991a).

While these two-year faculty were chosen through the same random procedure used in choosing tenured or tenure-track faculty at four-year institutions, the list used in selecting the two-year sample varied. When the list of all non-chair faculty in a given discipline was derivable from catalog listings, it was used in selecting the

sample, but in those cases where teachers in specific disciplines could not be so identified within divisions, two non-chair faculty were chosen by the same random procedure from each overall academic division, for each of the three relevant disciplines that fell within the division.

Administering the Survey

Material and procedures used in both direct and coordinator mailings. Dillman-like followup procedures and mailing materials were provided to those campus coordinators who agreed to participate once they were identified, and the same procedures and materials were used in the direct mailing. Pre-stamped, pre-addressed reply envelopes were provided with each survey form, so that coordinator mailing respondents, like direct mailing respondents, would return their completed surveys by mail directly to the university from which the survey originated rather than to the campus coordinator at their own institution, helping maintain anonymity of response.

Three followup postcards, signed by the researcher and personalized with the names and titles of campus coordinators, were provided to participating coordinators, to be sent to respondents on a weekly basis following the initial mailing of the survey by coordinators to respondents. The same procedure was followed in the direct mailing. The third followup postcard was attached to another survey form and reply envelope, giving respondents who had discarded or mislaid the original another opportunity to fill out the survey.

Survey Mailing. In December 1991 and January 1992, a total of 189 faculty at 21 public research universities, 177 faculty at 20 public comprehensive universities, and 136 faculty at 16 public two-year colleges were mailed a copy of the survey either directly or via a campus coordinator, yielding a total N of 502 (it was assumed that fewer than 500 surveys would be properly delivered). Coordinators

used campus mail to deliver the survey to 162 potential respondents, while 340 more were sent a copy of the survey by direct mail by the researcher.

At one public comprehensive university selected for the direct mailing, only six faculty were chosen due to the lack of a department of Marketing or its equivalent, while at eight of 16 public two-year colleges, only two division chairs were chosen because two of the three relevant disciplines (Chemistry, Marketing and Political Science) were contained within a single division, resulting in a total sample at these institutions of eight rather than nine faculty. Twenty-two surveys (seven percent) were undeliverable in the direct mailing, yielding an initial sample of 480.

After three followups, usable surveys had been returned by 115 research university faculty, 124 comprehensive university faculty, and 84 two-year college faculty for a total of 323 respondents. Of these 323 surveys, 317 were usable, for an effective response rate of 66.0%. The institutions from which faculty were chosen for the study were located in the Northeast (N=9), North Central (N=14), South (N=15), and Far West (N=19) regions of the U. S. The resulting stratified sample was fairly representative of the proportions of regular full-time faculty in two-and four- year public institutions of higher education.

Survey Instrument

Pilot survey. A brief questionnaire containing 20 multiple-choice and Likert-scale close-ended items and three open-ended questions was developed and formatively evaluated through a pilot study of full-time regular faculty (N=9), at a public research university in the Midwest. Survey items were formulated for the purpose of obtaining data to answer specific research questions (See Appendix A). Based on the results of the pilot survey and additional feedback from respondents, the title printed at the top of the survey instrument was changed from "Survey on Distance Education" to "Survey on Alternative Teaching Methods", one survey

question was deleted, and the designation "don't know" was changed to "not sure" over the box to be marked by those unable or unwilling to give a response on the Likert-scale items. The change in the title of the survey was intended to diminish non-response due to unfamiliarity with the concept, as was the deletion of what was originally the eighth question, in which respondents were asked to choose the most correct of three definitions of distance education. While minor changes were made based on the results, the most important problem suggested by analysis of the results of this pilot, namely, a lack of willingness to complete the survey on the part of persons unfamiliar with distance education, was less apparent in the full-scale survey than in the pilot.

Items in survey. Six of the 20 items in the final survey instrument (See Appendix B) concerned professional and demographic characteristics of respondents, including academic position, academic department or division, years in current position, age, gender, and preferred duties -- teaching, research, service or no one preference. Geographical location and institutional type were added as independent variables based on the location and classification of the institutions chosen for sampling.

General attitudes and attitudes toward distance education in increasingly proximate or specific academic settings were explored through five items based on Johnson's (1978) survey of University of Michigan faculty attitudes toward possible external degree programs at their university. The first item, a measure of attitudes toward the general concept of distance education, was intended to provide an opportunity for a very general response. Attitudes toward consortial development and distribution of DE, were indicated by responses to the second item. The remaining three items in this section concerned attitudes toward DE in progressively more proximate academic settings -- measures of attitude toward the use of distance education in college and university academic programs, in the

respondent's own program; and by the respondent personally in his or her academic program.

Index of attitudes toward DE. While the first item in this group may have been a good indicator of general attitudes toward DE, an overall index of attitudes toward DE that might be more predictive of future action was also needed. For this reason, scores on the five measures of attitude toward DE in general and specific academic settings were averaged together to form an overall score on DE in academic settings, for all respondents who answered all five items without marking any items "Not Sure" or leaving them blank. Respondent attitudes toward distance education when it is delivered via specific media or methods were the subject of six survey items. The first item was intended to measure respondent attitudes toward DE via audioconferencing; the second, attitudes toward DE via videoconferencing; the third, attitudes toward DE via computerconferencing; the fourth, attitudes toward DE via audiographics; the fifth, attitudes toward DE via telecourses, and the sixth, attitudes toward DE via correspondence study. These six DE media items, when combined with the five items on attitudes toward DE in general and specific academic settings, were intended to elicit the overall attitudes of responding faculty toward college-level teaching at a distance. Just as the five items on receptivity were averaged together to create an overall score on DE in academic settings, the six items on DE media were averaged to create an overall DE media attitude score, for all respondents who did not leave any of the six questions blank or answer them with a "not sure" ('8').

Three items concerned previous familiarity and experience: The first was intended to measure the extent of previous use of media in college teaching by respondents; the second, the degree of respondent familiarity with the term "distance education" or related terms, and the third, the extent of previous use by respondents of distance education methods in college teaching. The item on

previous experience with media appeared early in the survey, while the item on previous experience with distance education was the last item in the closed-answer question section. The questions were posed in this manner because it was assumed that faculty would readily understand what was meant by previous use of media, but might misunderstand or have no knowledge of what was meant by previous use of distance education. Immediately after indicating their degree of familiarity with DE, respondents were presented with a section defining distance education and giving some typical media/methods used in its provision.

The survey concluded with three open-ended questions in which respondents were asked to explain their attitudes toward (a) the general concept of distance education, (b) the use of distance education at their own institution of higher education, and (c) the likelihood of adequate rewards for participation in distance teaching at their university. Each respondent was asked the first open-ended question, and either the second or third open-ended question, since the desired brevity of the booklet-style survey form did not leave enough space on the final page of the survey for in-depth answers to all three questions.

Summary

Because it was not economically feasible to survey every type of faculty member, based on rank and employment status, at every kind of institution of higher education in every state, an attempt was made to choose a narrower but representative population of U. S. higher education faculty. National education statistics were used as a guide in choosing a representative sample. Faculty to be surveyed were chosen from 21 public research universities, 20 public comprehensive institutions I (representing public comprehensive universities), and 16 public two-year colleges with general transfer programs and enrollments of 6,000 or more (representing public two-year colleges). Institutions from which

faculty were to be selected were chosen by a random procedure based on the rough proportions of these three kinds of institutions in different states in the U. S.

At both research and comprehensive universities, the department chair, one tenured professor besides the chair, and one nontenured but tenure-track professor were chosen by a random procedure from each of three departments -- Chemistry, Marketing, and Political Science, or their equivalent. At two-year colleges, division chairs representing the same three disciplines were surveyed, along with two non-chair faculty chosen by the same random procedure, without regard for rank or tenure, from the department or division of which the discipline was a part.

A questionnaire containing 20 multiple-choice and Likert-scale close-ended items and three open-ended questions was developed, formatively evaluated through a pilot study, and revised. Six of the 20 items in the final survey instrument (See Appendix C) concerned professional and demographic characteristics of respondents, including academic position, academic department or division, years in current position, age, gender, preferred duties, geographical location and institutional type. Another three items concerned previous familiarity with distance education and experience with instructional media and distance teaching. General attitudes and attitudes toward distance education in increasingly proximate academic settings were measured through mean scores on five items, as well as through the average score on these five items.

Respondent attitudes toward distance education when it is delivered via specific media or methods -- audioconferencing, videoconferencing, computerconferencing, audiographics, telecourses, and correspondence study -- were measured though six survey items, and through the average score on these six items. Together, the five DE setting items and six DE media items, and their averages, were used in estimating the overall attitudes of responding faculty toward distance education. The survey concluded with three open-ended questions in which respondents were asked to explain their attitudes toward (a) the general concept of distance education, (b) the use of distance education at their own

institution of higher education, and (c) the likelihood of adequate rewards for participation in distance teaching at their university. In the next chapter, Chapter IV, statistical and comparative analyses of the data collected for the study are presented. Findings are developed, similarities and differences between relevant respondent subgroups are described, and research questions are tested.

Chapter IV

FINDINGS

The purpose of this study was to describe and analyze the attitudes of faculty at public U. S. institutions of higher education toward college-credit distance education. A nationwide survey of selected faculty at public research universities, public comprehensive institutions I, and public two-year institutions with general transfer programs in the United States was conducted in an attempt to ascertain similarities and differences in the attitudes of relevant subgroups of surveyed faculty toward college-credit distance education.

In this chapter, respondent characteristics, statistical procedures and survey results based on the two mailing methods are described, and then the first four research questions are answered in turn through statistical analysis of the data, and the fifth research question is answered through content analysis. In answering the research questions, the use of General Linear Model analysis of variance procedures and t-tests to determine similarities and differences in the attitudes of relevant respondent subgroups toward college-credit distance education is detailed, and findings are developed.

Description of Sample and Statistical Procedures

Respondent Characteristics

Tables 4.1 through 4.7 show the self-reported professional and demographic characteristics of higher education faculty responding to the present survey as indicated by their answers to the first six survey items.

Geographical location and institutional classification. Table 4.1 depicts the geographical areas of the country represented by respondents to the survey and by the initial survey sample, based on institutional classification. As was noted in Chapter III, the percentages of respondents from the three types of institutions gave the survey considerable representativeness.

Table 4.1

Frequency of Respondents by Geographical Region and Institutional Classification, and as Percentage of Initial Sample

Institutional Classification	Respondents[1] (%) Initial Sample[2] (%)	Geographical Region: North Central	South	East	Far West	All Regions
Comp. Universities	Respondents (%)	30 (24.4)	23 (18.7)	16 (13.0)	54 (43.4)	123 (100.0)
	Initial Sample (%)	36 (20.6)	43 (24.6)	26 (14.9)	70 (40.0)	175 (100.0)
	Respondents as % of Initial Sample	83.3	53.5	61.5	77.1	70.3
Research Universities	Respondents (%)	32 (28.3)	33 (29.2)	14 (12.4)	34 (30.1)	113 (100.0)
	Initial Sample (%)	52 (29.1)	51 (28.5)	27 (15.1)	49 (27.4)	179 (100.0)
	Respondents as % of Initial Sample	61.5	64.7	51.9	69.4	63.1
Two-Year Colleges	Respondents (%)	24 (29.6)	23 (28.4)	8 (9.9)	26 (32.1	81 (100.0)
	Initial Sample (%)	35 (27.8)	30 (23.8)	23 (18.3)	38 (30.2)	126 (100.0)
	Respondents as % of Initial Sample	68.6	76.7	34.8	68.4	64.3
All Institutions	Respondents (%)	86 (27.2)	79 (24.9)	38 (12.0)	114 (36.0)	317 (100.0)
	Initial Sample (%)	123 (25.6)	124 (25.8)	76 (15.8)	157 (32.7)	480 (100.0)
	Respondents as % of Initial Sample	69.9	63.7	50.0	72.6	66.0

[1] 'Respondents' denotes all usable returned surveys (N=317); The surveys of one comprehensive university, two research university and three two-year college faculty were unusable as returned.

[2] 'Initial Sample' denotes all surveys mailed that were not returned as undeliverable; Surveys sent to five comprehensive university, seven research university and ten two-year college faculty were returned as undeliverable.The omission of doctoral-granting university faculty from the sample was deemed acceptable for the reasons given in Chapter III.

Faculty from two-year colleges were most likely to respond to the survey, followed by comprehensive university faculty and research university faculty. The proportions of faculty from each region in the initial sample and in the population of responding faculty were fairly similar at each type of institution. Faculty in the East were least likely to respond to the survey (50% response rate), while the best response rate (72.6%) was achieved by faculty in the Far West.

There were some problems with the geographical representativeness of the sample, given the relative lack of respondents from Northeastern states. Some institutions originally classified as being located in Eastern states were later reclassified (correctly) as North Central instead, and Far Western institutions were slightly overrepresented. However, a somewhat lower response rate among faculty in Eastern states and a somewhat higher response rate among Far Western faculty was also reflected in the percentages of respondents from each geographical region.

Academic position. Faculty listings used in the mailing both by the researcher and by coordinators choosing samples on their own campus for the survey often did not accurately reflect the current academic ranks of potential respondents. Chairpersons might have been expected to constitute one-third of respondents, based on their representation in the sample to whom the survey was mailed, but only accounted for about 26% of two- and four-year faculty responding to the survey. Similarly, assistant professors only constituted 26% of four-year faculty responding (See Tables 4.2a, 4.2b), although one-third of four-year faculty who were mailed a survey were classified as assistant professors in faculty listings. These results may to some degree reflect greater noncompliance on the part of chairs and assistant professors, but a more likely explanation is that some chairs had reverted to tenured faculty status, and some assistant professors had attained tenure, since the publication of the faculty listings used in choosing the sample.

Campus coordinators were asked to obtain current listings directly from academic departments or divisions in choosing samples at their institutions, but the extent to which

Table 4.2a

Frequency of Academic Position by Institutional Classification of Respondents (Four-Year Institutions)

Institutional Classification	N %	Academic Position: Department Chairperson	Assoc./ Full Professor	Assistant Professor	Other
Research University (N = 112)	N	28	48	35	1
	%	25.0	42.9	31.2	0.9
Comp. University (N = 123)	N	32	64	26	1
	%	26.0	52.0	21.1	0.8
All Four-Year Respondents (N = 235)	N	60	112	61	2
	%	25.5	47.7	26.0	0.01

Frequency missing = 4

Table 4.2b

Frequency of Academic Position by Institutional Classification of Respondents (Two-Year Institutions)

		Academic Position				
Institutional Classification	N %	Tenured or T-Track Prof.	Professor w/o Rank	Instructor	Division or Dept. Chair	Other
Two-Year College (N = 84)	N	43	6	8	22	5
	%	51.2	7.1	9.5	26.2	6.0

Frequency missing = 0

this request was followed is difficult to determine. It would be reasonable to expect the percentage of chairs among responding faculty to be greater at four-year institutions, where about a third of the sample was chosen by coordinators, than at two-year colleges, where the researcher chose the entire sample from published faculty listings, if most coordinators had indeed obtained currently listings directly, but this was not the case. Although unintended, this underrepresentation of chairs and assistant professors among respondents actually made the survey more representative of the general population.

Because the two-year sample in the present survey was restricted to faculty from larger public two-year institutions (6,000 or more full-time enrollment) with general transfer programs, in an attempt to ensure that two-year and four-year institutions in the survey were at least roughly similar in size, two-year faculty who participated in tenure systems were probably somewhat overrepresented in the present survey. A majority of respondents from two-year colleges (43 of 80) reported that they held tenured or tenure-track positions. This did not include the 27% of respondents identifying themselves as division chairs, a majority of whom probably held tenure as well. As was the case with age and gender, tenure and rank could not be calculated for faculty in the total initial sample of the present survey because many members of the sample were chosen by coordinators rather than by the researcher.

Academic department or division. Relative rates of survey compliance were reflected in the percentages of four-year faculty from different departments responding to the survey (See Table 4.3a). This was especially evident among research university faculty. Surveys were mailed to equivalent numbers of faculty from the departments of Chemistry, Marketing and Political Science, but Chemistry faculty returned only about 27% of usable surveys, compared with 38.3% returned by Political Science faculty. The case was somewhat more clouded for comprehensive universities, at which a substantial percentage of faculty responding (18.4%) reported substantially different names for their academic departments.

Table 4.3a

Frequency of Four-Year Respondents by Academic Department

Institutional Classification	N %	Academic Department: Chemistry	Marketing	Political Science	Other
Research Universities (N = 94)	N	25	30	36	3
	%	26.6	31.9	38.3	3.2
Comp. Universities (N = 123)	N	31	24	31	37
	%	25.2	19.5	25.2	30.2
All four-year Respondents (N = 217)	N	56	54	67	40
	%	25.8	24.9	30.9	18.4

Frequency missing = 22

At two-year colleges, many different names were offered for academic units (See Table 4.3b). Grouping together response categories revealed that 26% of the two-year college faculty responding belonged to Chemistry departments or Science Divisions, 30% to Marketing departments or Business divisions, and 24% to Political Science or Social Science/Liberal Arts divisions. One in five community college respondents gave a name for his or her primary academic unit that was not equivalent to the departments or divisions named above.

By grouping two-year faculty by division and four-year faculty by the highest academic unit -- division, school or college -- rather than by the lowest academic unit -- department or division -- it was possible to combine all faculty in a single measure of the highest academic unit of which their discipline was a part (See Table 4.3c). Of the 294 faculty overall responding to the survey, about 28% belonged to a division, school or college of Physical Science, 31% to a Business division, school or college, and 34% to a Social Science or Liberal Arts division, school, or college.

Years in present position. Practically all respondents answering the item concerning the number of years they had held their current position (96.5%) indicated that they had held their present position for more than a year, and a majority (51%) reported that they had held the position they held now for ten or more years (see Table 4.4).

Age. As was noted in Chapter III, Methodology, the ages of faculty respondents, both overall and by institutional classification (See Table 4.5), largely mirrored the ages of the general population as indicated by a 1988 federal survey (See Table 3.2). However, the percentages of respondents reporting themselves to be 25-34 years of age at research universities (20.2%) and at two-year colleges (1.2%) were not as reflective of national norms. The research university respondent bias toward younger faculty can be explained somewhat by the relatively high response rate of assistant professors at these institutions, where they constituted 35% of all faculty returning the survey.

Table 4.3b

Frequency of Two-Year College Respondents by Academic Department or Division

Institutional Classification	N %	Academic Department or Division: Chem. Dept.	Mktg. Dept.	Pol. Sci. Dept.	Math/ Sci./Div.	Busin. Div.	Social Sci. Div.	Other
Two-Year Colleges (N = 80)	N	8	2	8	13	22	11	16
	%	10.0	2.5	10.0	16.3	27.5	13.8	20.0

Frequency missing = 4

Table 4.3c

Frequency of Respondents by Division/College and Institutional Classification

Institutional Classification	N %	Academic Division or College: Physical Science	Business	Social Science Liberal Arts	Other
Comp. Universities (N = 121)	N	37	33	41	10
	%	30.6	27.3	33.9	8.2
Research Universities (N = 94)	N	25	33	36	—
	%	26.6	35.1	38.3	—
All four-year Respondents (N = 215)	N	62	66	77	10
	%	28.8	30.7	35.8	4.7
Two-Year College (N =81)	N	22	27	24	8
	%	27.2	33.3	29.6	9.9
All Respondents (N =296)	N	84	93	101	18
	%	28.4	31.4	34.1	6.1

Frequency missing=27

Table 4.4

Number of Years in Present Position by Institutional Classification

Institutional Classification	N %	Years in present position: Less Than One Year	One to Nine Years	Ten or More Years
Research Universities (N = 76)	N	7	42	27
	%	9.2	55.3	35.5
Comp. Universities (N = 121)	N	2	63	56
	%	1.7	52.1	46.3
Two-Year Colleges (N = 83)	N	1	22	60
	%	1.2	26.5	72.3
All Respondents (N = 280)	N	10	127	143
	%	3.6	45.4	51.1

Frequency missing = 43

Table 4.5

Frequency of Age Group by Institutional Classification of Respondents

Institutional Classification	N / %	Age 25-34	35-44	45-54	55-64	Over 65
Research Universities (N = 99)	N	22	39	22	25	1
	%	20.2	35.8	20.2	22.9	0.9
Comp. Universities (N = 123)	N	9	38	49	22	5
	%	7.3	30.9	39.8	17.9	4.1
Two-Year Colleges (N = 82)	N	1	20	38	21	2
	%	1.2	24.4	46.3	25.6	2.4
All Respondents (N = 314)	N	32	97	109	68	8
	%	10.2	30.9	34.7	21.7	2.5

Frequency missing = 9

Gender. Perhaps as a result of the efficiency of the random procedure used in selecting faculty for inclusion in the survey, the percentages of female and male faculty responding to the survey reflected the national norms fairly well, both overall and in terms of the average male-female ratios at public research universities, comprehensive universities, and two-year colleges (See Table 4.6 and Table 3.2). A relatively large number of respondents (N=45) gave no answer to this question, but it was not possible to reach conclusions about whether or not this would tend to reflect a bias on the part of male or female faculty toward not marking items asking them to report their gender.

Preferred duties. Responses to this item (See Table 4.7) were consistent with the differences in faculty role orientations that might be expected at the three types of institutions, based on previous surveys of faculty. Research university faculty were likely to prefer research duties (48.5%), while two-year college and comprehensive university faculty usually preferred teaching (73.3% and 48.6%, respectively), although research was preferred by a substantial minority (16.2%) at comprehensive universities. Very few faculty (about 2%) preferred service roles. Mixed preferences for teaching and research were most evident at research universities, where 39.4% reported no one preference among teaching, research and service, and at comprehensive universities, where 33.3% chose this option.

Statistical Procedures Used in Analysis

Usable responses were analyzed using the Statistical Analysis System, or SAS. Frequencies and means, were obtained, and the Statistical Analysis System, or SAS General Linear Model Procedure (PROC GLM) and paired t-tests were used in the analysis of variance. Describing attitudes toward DE and their relation to professional/demographic characteristics and previous experience, not finding the most predictive model, was the central focus of the study. Overall means, minimums & maximums, and standard deviations of continuous survey variables appear in Table 4.8.

Table 4.6

Frequency of Gender by Institutional Classification of Respondents

Institutional Classification	N / %	Gender	
		Female	Male
Research Universities	N	17	79
	%	17.7	82.3
Comp. Universities	N	27	81
	%	25.0	75.0
Two-Year Colleges	N	25	49
	%	33.8	66.2
All Respondents	N	69	209
	%	24.8	75.2

Frequency missing = 45

Table 4.7

Frequency of Preferred Duties by Institutional Classification of Respondents

		Preferred Duties			
Inst. Class	N/%	Teaching	Research	Service	No One Preference
Research Universities	N	10	48	2	39
	%	10.1	48.5	2.0	39.4
Comp. Universities	N	54	18	2	37
	%	48.6	16.2	1.8	33.3
Two-Year Colleges	N	55	1	2	17
	%	73.3	1.3	2.7	22.7
All Respondents	N	119	67	6	93
	%	41.8	23.5	2.1	32.6

Frequency missing = 38

Table 4.8
Overall Means, Minimums & Maximums, & Standard Deviations of Continuous Survey Variables

Variable		N	MEAN	MIN	MAX	STD DEV
Familiarity / Experience with DE & Related Concepts						
USEMEDIA	Previous Use of Instructional Media in College Teaching	300	4.26	1	7	1.7714
FAMDISTA	Familiarity with Term 'Distance Education' or Related Terms	317	2.26	1	3	.7542
USEDISTA	Previous Use of Distance Education Methods in College Teaching	314	5.39	1	7	1.7486
Attitudes Toward DE in General & in Specific Settings						
RECEPGEN	Attitude toward Distance Education as a General Concept	300	3.77	1	7	1.6592
RECEPCON	Attitude toward Distance Education via Educational Consortia	275	3.69	1	7	1.5766
RECEPCUS	Attitude toward Distance Education in Co. & Univ. Acad. Programs	296	3.98	1	7	1.7521
RECEPPRO	Attitude toward Distance Education Use in Your Own Program	301	4.36	1	7	1.8967
RECEPYOU	Attitude toward Distance Education Use by You in Your Program	295	4.47	1	7	1.9996
RECEPTIV	Average Score on DE Attitude Items, RECEPGEN - RECEPYOU	257	3.99	1	7	1.6480
Attitudes Toward DE when Delivered Via Specific Media/Methods						
AUDICONF	Attitude Toward Distance Ed. Delivered Via Audio Conferencing	286	4.92	1	7	1.5663
VIDECONF	Attitude Toward Distance Ed. Delivered Via Video Conferencing	294	3.68	1	7	1.5913
COMPCONF	Attitude Toward Distance Ed. Delivered Via Computer Conferencing	274	4.36	1	7	1.6344
AUDIGRPH	Attitude Toward Distance Ed. Delivered Via Audiographics	265	4.18	1	7	1.6368
TELECOUR	Attitude Toward Distance Ed. Delivered Via Telecourses	301	3.77	1	7	1.7942
CORRSTDY	Attitude Toward Distance Ed. Delivered Via Correspondence Study	297	4.63	1	7	1.7942
MEDIAATT	Cumulative Score on DE Media Items, TELECOUR - CORRSTDY	265	4.29	1	7	1.3142

Statistical Analysis

First Research Question: Indicators of Overall Faculty Attitudes Toward DE

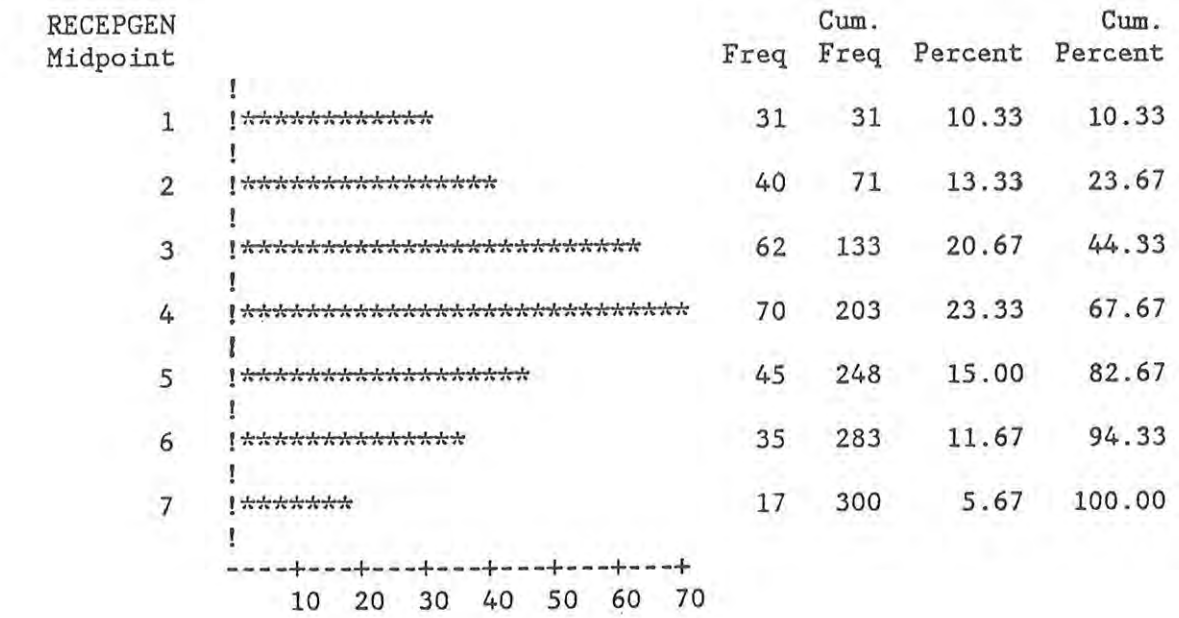
Attitudes toward DE in general and academic settings. Responses to five items and their average, were used to answer the first research question, "Do public higher education faculty in the United States hold negative or positive attitudes toward the teaching of college-credit courses by distance education methods?" Five survey items concerned respondent attitudes toward the use of distance education in general and specific academic settings. In one of these five items, respondents were asked to indicate their attitudes toward DE as a general concept. In another, they were asked to report their attitudes toward college-credit DE developed and distributed through consortial activities in which their institution took part. In the remaining three items in this group of questions, respondents were asked to report their attitudes toward the use of college credit DE in progressively more proximate academic settings: in college and university academic programs, in the respondent's own program, by the respondent personally in his or her program. Respondent mean scores on these five items were added to created RECEPTIV, an average score on DE in general and specific academic settings.

Attitudes toward DE as a general concept. Scores on the five items on attitudes toward DE in general and academic settings ranged from '1' = a very positive attitude to '7' = a very negative attitude, where '4' denoted a neutral attitude (See Table 4.8). The overall mean score on the first of these five items, RECEPGEN, or attitude toward the general concept of distance education, was 3.77. This indicated that the faculty surveyed, on average, held slightly positive general attitudes toward distance education. Response frequencies followed a fairly normal curve (See Figure 4.1).

Attitudes toward DE via educational consortia. This item was included because so much of DE is consortial in nature, and because higher education faculty might be expected to be relatively open to consortial applications since they spread costs and risk, and often

Figure 4.1

Frequency of Responses of All Respondents on RECEPGEN, a Measure of Attitudes toward DE as a General Concept



N	Mean	Std Dev	Minimum	Maximum
300	3.7700000	1.6591995	1.0000000	7.0000000

involve well-known educational organizations. As indicated by responses to the item intended to measure attitudes toward the development and distribution of DE via educational consortia, RECEPCON (See Figure 4.2), responding faculty were more favorable toward consortial DE than toward any of the other four items in this group, reporting slightly to moderately positive attitudes (M=3.69).

Attitudes toward DE in college and university programs. Surveyed faculty indicated slightly positive attitudes overall (M=3.98) toward DE in the most general academic setting, 'college and university programs' (See Figure 4.3). Response frequencies were more on the negative side of neutral than was true for DE as a general concept.

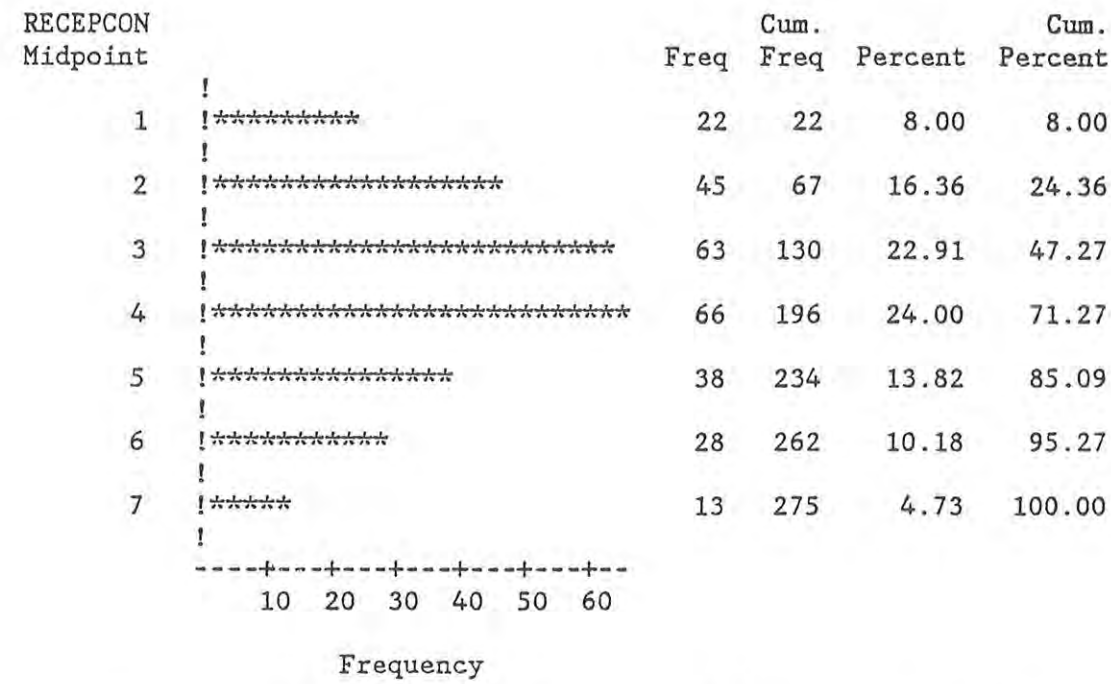
Attitudes toward DE in respondent's own program. Respondents indicated that they held, on average, slightly to moderately negative attitudes toward DE use in their own academic programs (M=4.36). The percentage of respondents holding a very negative attitude toward DE in their own program was substantially higher than those holding such an attitude toward DE in more general settings (See Figure 4.4).

Attitudes toward personal use of DE. The lowest mean score score for respondents on any of these five questions was usually their score on the fifth and most personally proximate item, RECEPYOU, or attitude toward DE use by the respondent personally in his or her program . Responses to this item indicated a slightly to moderately negative attitude toward personal participation in DE (M=4.47). A substantial minority of faculty indicated a very negative attitude, and the frequency distribution of answers reflected this (See Figure 4.5).

This item, RECEPYOU, was a measure of receptivity, or willingness to consider personal adoption of distance education methods. About one in five faculty responding to the survey (N=63) indicated a very positive attitude toward personal participation in DE, or high receptivity (as indicated by a personal use of DE score of '1' or '2'). About four in

Figure 4.2

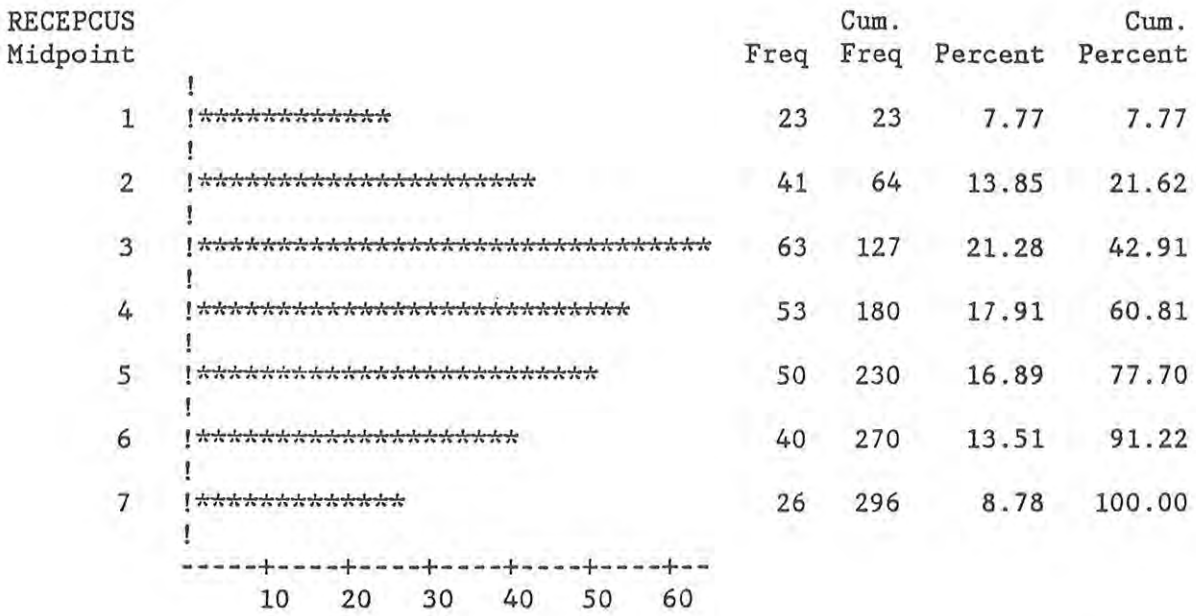
Frequency of Responses of All Respondents on RECEPCON,
a Measure of Attitudes toward DE via Educational Consortia



N	Mean	Std Dev	Minimum	Maximum
275	3.6872727	1.5766377	1.0000000	7.0000000

Figure 4.3

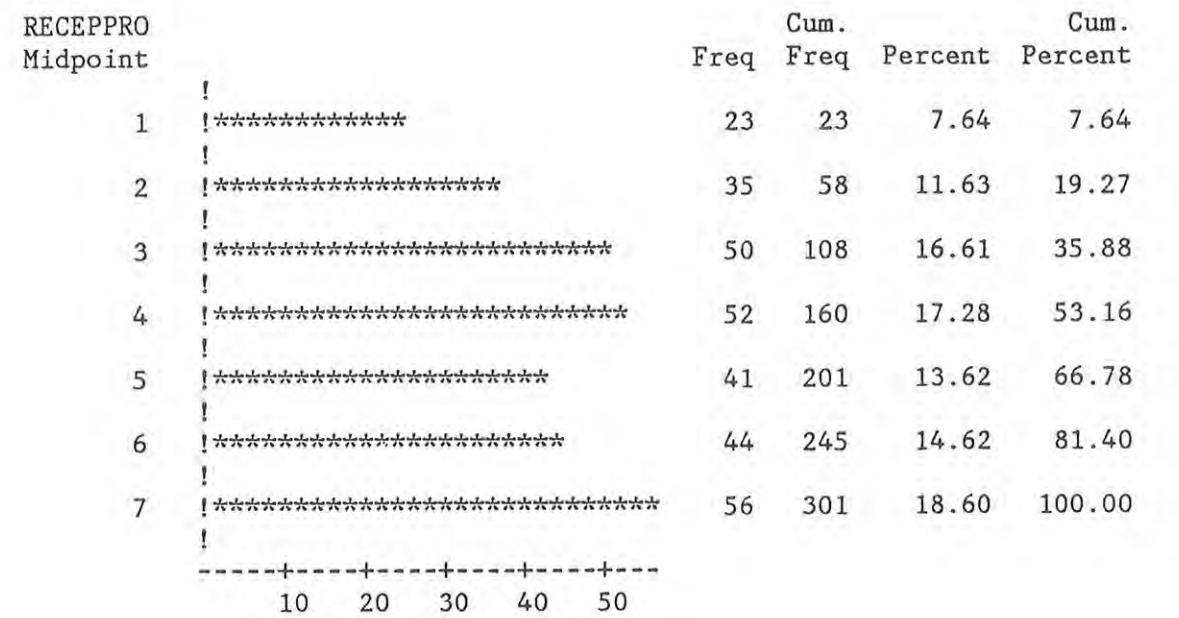
Frequency of Responses of All Respondents on RECEPCUS,
a Measure of Attitudes toward DE in College and University Programs



N	Mean	Std Dev	Minimum	Maximum
296	3.9797297	1.7250678	1.0000000	7.0000000

Figure 4.4

Frequency of Responses of All Respondents on RECEPPRO,
a Measure of Attitudes toward DE in Respondent's Own Program



N	Mean	Std Dev	Minimum	Maximum
301	4.3588040	1.8967069	1.0000000	7.0000000

Figure 4.5

Frequency of Responses of All Respondents on RECEPYOU, a Measure of Attitudes toward Personal Use of DE

RECEPYOU Midpoint		Freq	Cum. Freq	Percent	Cum. Percent
1	!**********	25	25	8.47	8.47
2	!**********	38	63	12.88	21.36
3	!**********	38	101	12.88	34.24
4	!**********	46	147	15.59	49.83
5	!**********	37	184	12.54	62.37
6	!**********	42	226	14.24	76.61
7	!**********	69	295	23.39	100.00

10 20 30 40 50 60 70

Frequency

N	Mean	Std Dev	Minimum	Maximum
295	4.4711864	1.9995791	1.0000000	7.0000000

ten highly receptive respondents worked at two-year colleges. This was significant since only about one in four respondents overall taught at a two-year institution.

Contrasting general attitudes with receptivity. Contrasting RECEPGEN and RECEPYOU, or attitudes toward DE as a general concept and attitudes toward personal use of DE (or receptivity to DE), showed that most faculty subgroups were less favorable to personal use of DE than they were to DE in general.

When respondents were grouped by academic position, the smallest decrease in positiveness between mean scores on the item measuring attitude from DE as a general concept and the item measuring attitude toward personal use of DE at four-year institutions was reported by research university department chairs, and at two-year institutions by division chairs (See Tables 4.9a and 4.9b). Since research university chairs constituted the smallest number of respondents with the smallest difference in attitudes toward these two items among four-year respondents by institutional classification and academic rank (See Table 4.9a), and the difference in their scores on these two measures was significant at the .05 level on the basis of a t-test (See Table 4.9c(i)), the differences on mean scores between these two measures must have been significant as well for other groupings of research and comprehensive university faculty by academic rank. Among community college respondents, the scores of division chairs on DE as a general concept and personal use of DE did not significantly differ at the .05 level by t-test (See Table 4.9c(ii), but those of tenured or tenure-track faculty who were not chairs did (See Table 4.9c(iii)).

When faculty were grouped by division, school or college (See Table 4.9d), two-year college Business faculty stood out as the only group of faculty who were, on average, more positive toward the personal use of DE than they were toward DE as a general concept. The difference was significant at the .05 level on the basis of a t-test (See Table 4.9e(i)). The difference in scores was also significant at the .05 level for the four-year subgroup with the smallest difference in the two scores, research university Business faculty (See Table 4.9e(ii), while the difference between mean scores on these two items of

Table 4.9a

Four-Year Respondent Mean Scores on DE as a General Concept and Personal Use of DE by Institutional Classification and Academic Position

Type of Institution	Variable (n)	Academic Position: Department Chairperson	Assoc./Full Professor	Assistant Professor	All Professors
Research University	RECEPGEN	3.679 (28)	4.104 (48)	4.829 (35)	4.283 (113)
	RECEPYOU	4.286 (28)	4.792 (48)	5.606 (33)	5.045 (111)
Comp. University	RECEPGEN	4.097 (31)	4.266 (64)	3.200 (25)	3.975 (121)
	RECEPYOU	4.903 (31)	5.125 (64)	4.038 (26)	4.803 (122)
All 4-Year Respondents	RECEPGEN	3.898 (59)	4.196 (112)	4.150 (60)	4.124 (234)
	RECEPYOU	4.780 (59)	4.982 (112)	4.915 (59)	4.918 (233)

Frequency missing = 5

Table 4.9b

Two-Year College Respondent Mean Scores on DE as a General Concept and Personal Use of DE by Institutional Classification and Academic Position

Institutional Classification	Variable (N)	Academic Position: Division Chair	Tenured or T-Track Prof	Other Faculty
Two-Year College	RECEPGEN	2.95 (22)	3.63 (43)	4.50 (18)
	RECEPYOU	3.20 (20)	4.16 (43)	4.56 (18)

Frequency missing = 2

Table 4.9c

Paired t-Tests of Significance of Differences Between Mean Scores on DE as a General Concept and Personal Use of DE for Tables 4.9a and 4.9b

4.9c (i) DE as General Concept/Personal Use of DE:
Paired t-Test for Attitudes of Research University Department Chairs

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
26	.7692	.2899	2.6537	.0136*

4.9c (ii) DE as General Concept/Personal Use of DE:
Paired t-Test for Attitudes of Two-Year College Division Chairs

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
20	.3500	.3500	1.0000	.3299

4.9c (iii) DE as General Concept/Personal Use of DE:
Paired t-Test for Attitudes of Two-Year College Tenure System Faculty

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
37	.4054	.2067	1.9612	.0576

* Prob [t] is statistically significant at the .05 level

Table 4.9d

Respondent Mean Scores on DE as a General Concept and RECEPYOU
by Institution Classification and Division/College

Institutional Class	Variable (N)	Academic Division or College: Physical Science	Business	Social Sci. Lib. Arts	Other	All Faculty
Comp. Universities (N = 121)	RECEPGEN	4.38 (37)	3.42 (33)	3.93 (41)	4.50 (10)	3.84 (117)
	RECEPYOU	5.27 (37)	4.26 (34)	4.63 (41)	5.60 (10)	4.69 (118)
Research Universities (N =94)	RECEPGEN	4.48 (25)	3.97 (33)	4.08 (36)	—	4.00 (105)
	RECEPYOU	5.36 (25)	4.41 (32)	5.11 (35)	—	4.75 (101)
All four-year Respondents (N = 215)	RECEPGEN	4.42 (62)	3.70 (66)	4.00 (77)	4.50 (10)	3.91 (222)
	RECEPYOU	5.31 (62)	4.33 (66)	4.86 (76)	5.60 (10)	4.72 (219)
Two-Year College (N = 81)	RECEPGEN	3.73 (22)	3.41 (27)	4.29 (24)	2.25 (8)	3.36 (78)
	RECEPYOU	4.68 (22)	2.89 (27)	4.91 (22)	3.50 (8)	3.75 (76)
All Respondents (N =296)	RECEPGEN	4.29 (84)	3.61 (93)	4.07 (98)	3.50 (18)	3.77 (300)
	RECEPYOU	5.14 (84)	3.91 (93)	4.87 (98)	4.67 (18)	4.47 (295)

Table 4.9e

Paired t-Tests of Significance of Differences Between Mean Scores on DE as a General Concept and Personal Use of DE for Table 4.9d

4.9e (i) DE as General Concept/Personal Use of DE:
Paired t-Test for Attitudes of Two-Year College Division of Business Faculty

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
20	.5000	.2351	2.1269	.0467*

4.9e (ii) DE as General Concept/Personal Use of DE:
Paired t-Test for Attitudes of Research University College/School of Business Faculty

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
32	.5000	.2376	2.1044	.0435*

4.9e (iii) DE as General Concept/Personal Use of DE:
Paired t-Test for Attitudes of Two-Year College Division of Physical Science Faculty

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
19	.6316	.3263	1.9354	.0688

* Prob [t] is statistically significant at the .05 level

two-year college Physical Science faculty, the smallest two-year subgroup, was not quite significant at the .05 level (See Table 4.9e(iii)).

When the second of these five measures of attitudes toward DE in general and specific academic settings, DE via consortia (RECEPCON), was removed, leaving four measures that clearly moved from more general academic settings to more specific and personally relevant academic settings, and scores on the four remaining items were charted, a linear relationship was evident (See Figure 4.6). That is, faculty grew less supportive of DE as the questions became more and more personally proximate. While scores on DE as a general concept and DE via consortia were not significantly different (See Table 4.10a), scores on the four measures shown in Figure 4.6 were all significantly different based on t-tests (See Table 4.10b-d).

An average DE attitudes score. While RECEPGEN may be a good indicator of general attitudes toward DE, and RECEPYOU may be a good indicator of personal receptivity, an overall index of respondent attitudes toward DE in various settings was needed. Therefore, scores on the five measures of attitudes toward DE in academic and general settings were averaged together to form RECEPTIV, a mean score, for each respondent who answered all five of these items without marking any items "Not Sure" or leaving them blank (See Figure 4.7). RECEPTIV scores could potentially run from '1', for a very positive attitude, to '7' for a very negative one, where '4' indicated neutrality (See Table 4.8). The mean score on RECEPTIV, 3.99, indicated slightly positive attitudes on the part of responding faculty overall.

Ninety-five percent of faculty providing usable responses to the survey gave usable answers on the measure of attitude toward DE as a general concept, and 93% gave usable answers on the measure of attitude toward personal use of DE, while only 81% gave usable answers on the average of the five items on DE in general and specific academic settings, due to the deletion of faculty answering "Not Sure" or providing no answer on one or more of the five component items of which RECEPTIV was the average. Therefore, scores on

Figure 4.6

Mean Scores of All Respondents on Four Measures of Attitudes Toward DE in General and Academic Settings

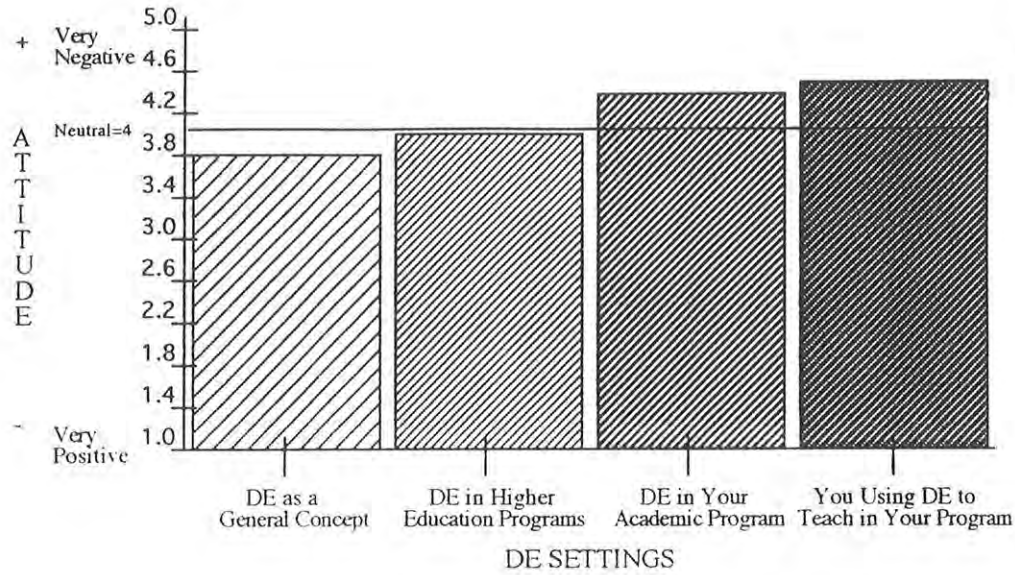


Table 4.10

Paired t-Tests of Significance of Differences Between Mean Scores on Five Measures of DE Attitudes in General and Specific Academic Settings

4.10a. DE as a General Concept/DE via Consortia: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
273	.0110	.0567	.1937	.8465

4.10b. DE as a General Concept/Use of DE in College and University Programs: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
290	.1862	.0486	3.8315	.0002*

4.10c. Use of DE in College and University Programs/Use of DE in Your Academic Program:
Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
290	.3724	.0542	6.8770	.0001*

4.10d. Use of DE in Your Academic Program/Use of DE by You Personally : Paired t-Test

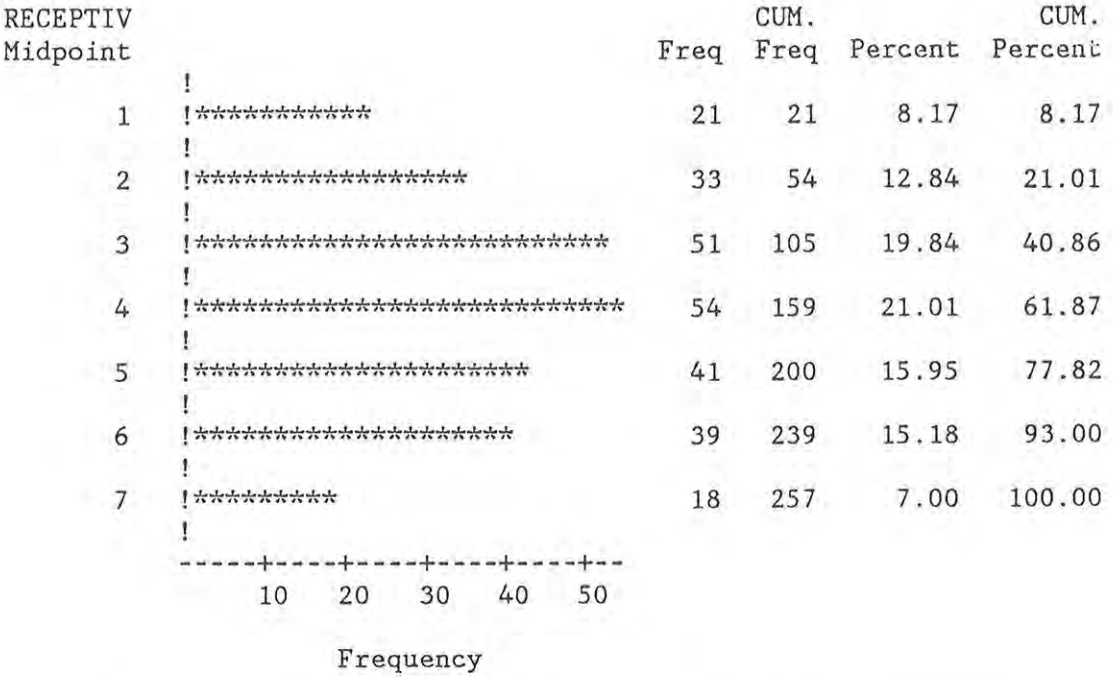
Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
293	.1229	.0502	2.4477	.0150*

* Prob [t] is statistically significant at the .05 level

Figure 4.7

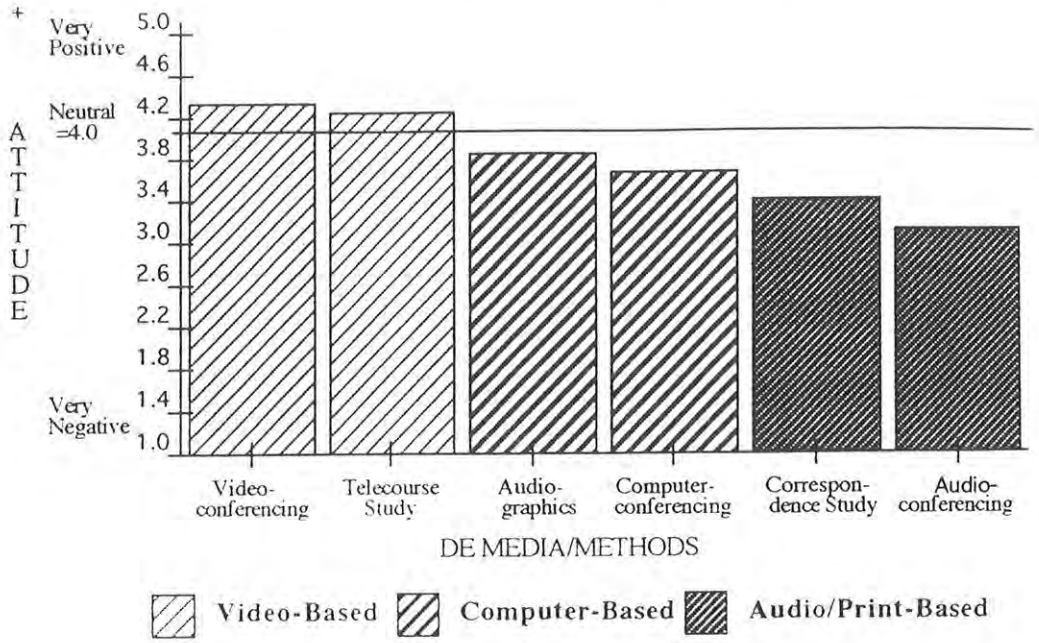
Frequency of Responses of All Respondents on RECEPTIV, the Average of Five Measures of Attitudes toward DE in General and Academic Settings



N	Mean	Std Dev	Minimum	Maximum
257	3.9852140	1.6479910	1.0000000	7.0000000

Figure 4.8

Mean Scores of All Respondents on Six Measures of Attitudes Toward DE When Delivered Via Specific Media



individual items, such as the measures of attitudes toward DE as a general concept and personal use of DE, may have been more accurate barometers of opinion overall. Faculty who were less supportive of DE may have been less likely to give usable answers to all five items, and therefore more likely to be left out of the calculation of the RECEPTIV mean score.

Second Research Question: Attitudes toward DE via Specific Media

Attitudes toward specific DE media. Respondent scores on six survey items concerning the use of specific media or methods in the provision of college-level teaching via distance education methods, and average scores on these six items, were used in answering the second research question, "Do the attitudes of faculty at public institutions of higher education in the United States to college-credit distance education vary significantly with regard to the kinds of instructional methods that might be used in teaching at a distance?" In these six items, respondents were asked to give their attitudes toward specific media when used in the delivery of college-level distance education: Audioconferencing, videoconferencing, computerconferencing, audiographics, telecourses and correspondence study. The mean scores of respondents on those items were combined to create MEDIAATT, an average DE media score.

Clearly, attitudes toward the use of specific media in the delivery of distance education cannot be used in predicting attitudes toward DE in general or in specific academic settings, due to colinearity concerns, but attitudes toward DE media can still be used as a separate measure of faculty attitudes. Scores on the six items concerning the use of specific DE media ranged from '1' = a very positive attitude to '7' = a very negative attitude, where '4' = a neutral attitude. Visual media were perceived most favorably, based on the mean scores of respondents overall (See Figure 4.8).

Faculty DE media preferences are ranked by institutional classification in Table 4.11a. Videoconferencing (M=3.68) was the best received DE media overall, followed closely by

Table 4.11a

DE Media Preferences of All Respondents by Institutional Classification

Institutional Classification										
Comprehensive Us.		Research Us.		All Four-Year Institutions		Community Colleges		All Institutions	
Variable	Score (N)	Variable	Score (N)	Variable	Score (N)	Variable	Score (N)	Variable	Score (N)
VCONF [1]	3.72 (115)	VCONF	3.90 (106)	VCONF	3.81 (221)	TCOUR	3.09 (79)	VCONF	3.68 (294)
TCOUR [2]	3.82 (116)	TCOUR	4.22 (106)	TCOUR	4.01 (222)	VCONF	3.30 (73)	TCOUR	3.77 (301)
AGRPH [3]	4.25 (104)	AGRPH	4.47 (94)	AGRPH	4.35 (198)	AGRPH	3.65 (66)	AGRPH	4.18 (264)
CCONF [4]	4.31 (108)	CCONF	4.72 (99)	CCONF	4.51 (207)	CCONF	3.91 (67)	CCONF	4.36 (274)
CORRS [5]	4.63 (118)	CORRS	4.99 (105)	CORRS	4.80 (223)	CORRS	4.11 (74)	CORRS	4.63 (297)
ACONF [6]	5.04 (115)	ACONF	5.30 (102)	ACONF	5.17 (217)	ACONF	4.14 (69)	ACONF	4.92 (286)
MEDIA [7]	4.27 (99)	MEDIA	4.71 (89)	MEDIA	4.48 (188)	MEDIA	3.69 (61)	MEDIA	4.29 (249)

1 Mean Score, Attitude toward college-level study via videoconferencing, where:'1'=Very Positive; '4'=Neutral; '7'=Very Negative
2 Mean Score, Attitude toward college-level study via telecourses, where:'1'=Very Positive; '4'=Neutral; '7'=Very Negative
3 Mean Score, Attitude toward college-level study via computerconferencing, where:'1'=Very Positive; '4'=Neutral; '7'=Very Negative
4 Mean Score, Attitude toward college-level study via correspondence, where:'1'=Very Positive; '4'=Neutral; '7'=Very Negative
5 Mean Score, Attitude toward college-level study via audiographics, where:'1'=Very Positive; '4'=Neutral; '7'=Very Negative
6 Mean Score, Attitude toward college-level study via audioconferencing, where:'1'=Very Positive; '4'=Neutral; '7'=Very Negative
7 Cumulative score (MEDIAATT), average of mean scores on the six DE media, all respondents giving usable score on all six items

telecourse study (M=3.77). Responding faculty were slightly to moderately positive toward the former medium, and slightly positive toward the latter. Coming in a fairly distant third was audiographics (M=4.18), which was perceived in a slightly negative manner by responding faculty. Next came computerconferencing (M=4.36), toward which respondents held slightly to moderately negative attitudes. Correspondence study (M=4.63) was the fifth most popular media, while audioconferencing (M=4.92) was the least popular. Attitudes toward these last two media were moderately negative. The difference in mean scores on each medium or method and the medium or method ranked above and below it for all two- and four-year faculty was significant based on t-tests, except in the case of the two most popular media, videoconferencing and telecourse study, on which mean scores were not significantly different (See Table 4.11b(i-v)). Two year faculty, on average, preferred telecourses slightly more than videoconferencing, while the reverse was true for four-year faculty, but in both cases video media were seen more favorably than other media (See Table 4.11a). The differences in attitudes toward telecourses and videoconferencing were not significant at the .05 level for two-year faculty or for four-year faculty providing usable responses (See Tables 4.11b(vi-vii)).

An average DE media score. As with the five items on faculty attitudes that were averaged to create the RECEPTIV score, the six items on DE media were averaged to create MEDIAATT, an overall DE media attitude score, with values from '1' to '7', for all respondents who did not answer any of the six questions with a "not sure" (by marking '8'). The average DE media score for all respondents (M=4.29) was slightly above neutral (where neutral = '4'), which meant that, on average, respondents held slightly negative attitudes toward DE media overall. The frequency distribution for MEDIAATT was similar to that for RECEPTIV (See Figure 4.9). About 95% of responding faculty provided usable responses on the measure of attitude toward videoconferencing and 93% provided usable responses on the measure of attitude toward telecourse study, while 84% provided usable responses on the average of the six measures of attitude toward specific DE media

Table 4.11b

Paired t-Tests of Significance of Differences Between Overall Mean Scores on Six DE Media/Methods

4.11b (i). Audioconferencing/Correspondence Study: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
280	.2607	.1059	2.4621	.0144*

4.11b (ii). Correspondence Study/Computerconferencing: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
271	.2952	.1153	2.5608	.0110*

4.11b (iii). Computerconferencing/Audiographics: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
261	.1839	.0544	3.3778	.0008*

4.11b (iv). Audiographics/Telecourse Study: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
262	.3969	.0937	4.2351	.0001*

* Prob [t] is statistically significant at the .05 level

Table 4.11b

Paired t-Tests of Significance of Differences Between
Overall Mean Scores on Six DE Media/Methods (Continued)

4.11b (v). Telecourse Study/Videoconferencing: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
292	.0685	.0859	.7976	.4258

4.11b (vi). Telecourse Study/Videoconferencing, Four-Year Faculty Only: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
219	.1781	.0938	1.8985	.0589

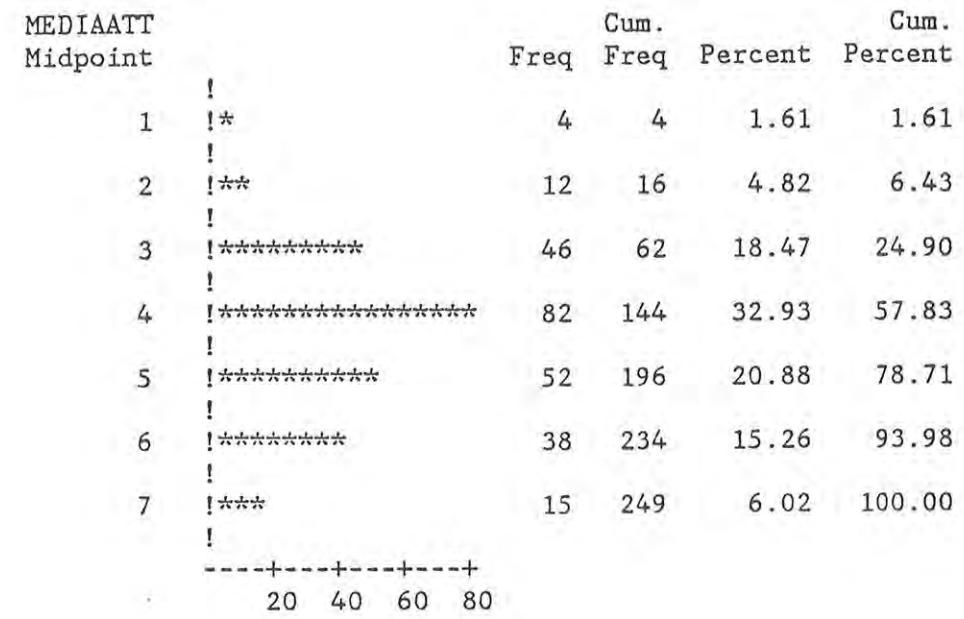
4.11b (vii). Telecourse Study/Videoconferencing, Two-Year Faculty Only: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
73	.2603	.1931	1.3476	.1820

Figure 4.9

Frequency of Responses of All Respondents on MEDIAATT, the Average of Six Measures of Attitudes toward DE Via Specific Media



N	Mean	Std Dev	Minimum	Maximum
249	4.2858099	1.3141579	1.0000000	7.0000000

and methods. This suggested that the average DE media score (MEDIAATT) was somewhat less representative of the opinions of responding faculty than their scores on individual DE media items, as was the case with the five measures of attitude toward DE in general and specific academic settings and their average, RECEPTIV.

Third Research Question: Demographic/Professional Characteristics and Faculty Attitudes

The third research question posed was "How are the professional and demographic characteristics of higher education faculty related to their attitudes toward college-credit distance education?" Eight professional and demographic measures were studied: institutional classification, geographical location, academic position, academic department, age, years in current position, gender, and preferred duties. Institutional classification and geographical location were derived from the mailing list in the direct mailing, and in the coordinator mailing were obtained through the use of a special coding built into return addresses on the return envelopes of respondents (See Appendix C). The remaining six measures were based on responses to items requesting demographic and professional information in the survey.

Four major measures of DE attitudes. In order to answer the third research question, these eight demographic and professional characteristics were considered in relation to four of the measures of faculty attitudes discussed in the preceding section: (1) Attitude toward DE as a general concept, or RECEPGEN; (2) Attitude toward personal involvement in distance teaching, or RECEPYOU; (3) The average score on items related to attitude toward DE in general/specific academic settings, or RECEPTIV; and (4) The average score on six measures of attitudes toward the use of specific media in the provision of DE, or MEDIAATT (See Table 4.12a).

Paired t-tests showed that mean scores on the measure of attitude toward DE as a general concept (M=3.77), were significantly lower at the .05 level than mean scores on the average of all five measures of attitudes toward DE in general and academic settings,

Table 4.12a

Respondent Mean Scores and N's on the Four Major Measures of Attitudes Toward DE (DE as a General Concept; Personal Use of DE; Average Score on DE in General and Specific Academic Settings; Average Score on DE Media/Methods) by Type of Institution

Type of Institution	Measures of Faculty Attitudes Toward DE *			
	RECEPGEN	RECEPYOU	RECEPTIV	MEDIAATT
Comp. University	3.84 (117)	4.69 (118)	4.07 (103)	4.27 (99)
Research University	4.00 (105)	4.75 (101)	4.26 (92)	4.71 (89)
Community College	3.36 (78)	3.75 (76)	3.44 (62)	3.69 (61)
All Institutions	3.77 (300)	4.47 (295)	3.99 (257)	4.29 (249)

* Scores from 1=Very Positive Attitude to 7=Very Negative Attitude, where 4=Neutral.

RECEPTIV (M=4.07). In turn, mean scores on RECEPTIV were found to be significantly lower than the average of the six measures of attitudes toward specific DE media or methods, MEDIAATT (M=4.28). Finally, mean scores on RECEPYOU (M=4.47), the measure of attitudes toward personal use of DE, was shown to be significantly lower than those on MEDIAATT (See Table 4.12b(i-iii)). A summary of the analysis of variance of these four major measures of attitudes toward DE across professional/demographic and previous experience variables, using PROC GLM, is presented in Table 4.13. This initial analysis suggested specific subgroups for further comparative testing.

A descriptive scale for DE attitudes. Describing the degree to which mean scores on measures of respondent attitudes toward distance education were positive or negative would have been a somewhat arbitrary exercise without some method of consistently describing the ranges within which these mean scores fell. For this reason, a scale was developed for use in the discussion of findings (See Table 4.14). Almost all of the mean scores for respondent subgroups on individual measures of attitudes toward distance education fell between 3.0 and 5.0 on a scale of 1.0 to 7.0.

Geographical location, institutional classifcation and faculty attitudes. There were no significant differences in respondent scores on the four major measures of DE attitudes (See Table 4.13) based on geographical location, but scores did differ significantly in relation to institutional classification. The variance of these four major measures of DE attitudes across institutional classifications, as well as across all institutions, was presented in Table 4.12a.

On average, two-year college faculty taking part in the survey were moderately positive in their attitudes toward the general concept of distance education, or RECEPGEN (M=3.36), while comprehensive university faculty were slightly positive (M=3.84), and research university faculty held neutral attitudes (M=4.00; See Table 4.15a). Two-year college faculty mean scores were significantly more positive than those of four-year faculty at the .05 level.

Table 4.12b

Paired t-Test of Significance of Differences Between Major Measures of Attitudes toward Distance Education

4.12b (i) RECEPGEN/RECEPTIV: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
257	.2848	.0386	7.3697	.0001*

4.12b (ii) RECEPTIV/MEDIAATT: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
221	.1541	.0685	2.2505	.0254*

4.12b (iii) MEDIAATT/RECEPYOU: Paired t-Test

Analysis Variable: DIFF

N	Mean Diff.	Std Error	t	Prob [t]
245	.2782	.0908	3.0652	.0024*

* Prob [t] is statistically significant at the .05 level

Table 4.13

Analysis of Variance Using General Linear Model (SAS, PROC GLM) of the Four Major Attitudinal Measures, with Independent Variables*

Variables GRPS**	F	p	DF	TYPE III SS	MEAN SQ	
ACADPOS						
RECEPGEN	1.78	.0815	8,291	38.3036	4.7880	1
RECEPYOU	2.30	.0210	8,286	71.0863	8.8858	1
RECEPTIV	1.68	.1026	8,248	35.8336	4.4792	1
MEDIAATT	3.83	.0003	8,240	48.4396	6.0549	2
DEPTNAM						
RECEPGEN	2.04	.0604	6,276	33.3372	5.5562	3
RECEPYOU	3.50	.0024	6,271	80.2590	13.3765	3
RECEPTIV	3.27	.0042	6,234	51.1754	8.5292	2
MEDIAATT	2.02	.0644	6,227	20.4420	3.4070	3
COLLNAM						
RECEPGEN	2.79	.0410	3,280	22.7537	7.5846	2
RECEPYOU	4.02	.0080	3,275	46.9726	15.6575	2
RECEPTIV	3.15	.0258	3,237	25.3900	8.4633	2
MEDIAATT	0.77	.5100	3,231	4.0252	1.3417	1
YEARSPOS						
RECEPGEN	0.51	.5985	2,264	2.8104	1.4052	1
RECEPYOU	0.01	.9940	2,260	.0494	.0247	1
RECEPTIV	0.05	.9489	2,225	.2900	.1450	1
MEDIAATT	1.06	.3487	2,219	3.6757	1.8378	1
AGE						
RECEPGEN	0.05	.9952	4,291	.5620	0.1405	1
RECEPYOU	0.95	.4359	4,286	15.2037	3.8009	1
RECEPTIV	0.53	.7119	4,248	5.8066	1.4517	1
MEDIAATT	0.89	.4685	4,241	6.1891	1.5473	1
GENDER						
RECEPGEN	1.30	.2549	1,263	3.5526	3.5526	1
RECEPYOU	0.31	.5784	1,257	1.2417	1.2417	1
RECEPTIV	2.09	.1493	1,226	5.7038	5.7038	1
MEDIAATT	6.15	.0139	1,214	9.7749	9.7749	2
PREFDUTI						
RECEPGEN	0.56	.6411	3,264	4.5668	1.5223	1
RECEPYOU	0.98	.4025	3,261	11.7453	3.9151	1
RECEPTIV	0.77	.5133	3,226	6.1670	2.0557	1
MEDIAATT	2.56	.0559	3,215	12.4084	4.1361	1

Table 4.13

Analysis of Variance Using General Linear Model (SAS, PROC GLM): of the Four Major Attitudinal Measures, with Independent Variables (Continued)

Variables	F	p	DF	TYPE III SS	MEAN SQ	GRPS*
INSTCLAS						
RECEPGEN	3.56	.0297	2,297	19.2668	9.6334	2
RECEPYOU	6.95	.0011	2,292	53.4263	26.7131	2
RECEPTIV	4.86	.0085	2,254	25.6362	12.8181	2
MEDIAATT	11.73	.0001	2,246	37.2892	18.6446	3
GEOGRPHY						
RECEPGEN	0.95	.4155	3,296	7.8716	2.6239	1
RECEPYOU	0.03	.9923	3,291	.3861	.1286	1
RECEPTIV	0.56	.6443	3,253	4.5567	1.5190	1
MEDIAATT	0.60	.6100	3,245	3.1283	1.0428	1
USEMEDIA						
RECEPGEN	5.21	.0002	6,279	78.3219	13.0536	4
RECEPYOU	6.37	.0001	6,272	135.7171	22.6195	3
RECEPTIV	4.38	.0007	6,239	66.5148	9.5021	2
MEDIAATT	4.79	.0001	6,231	45.6706	7.6118	4
FAMDISTA						
RECEPGEN	21.22	.0001	2,297	102.9078	51.4539	3
RECEPYOU	12.71	.0001	2,292	94.1162	47.0581	2
RECEPTIV	13.81	.0001	2,254	28.1877	14.0938	2
MEDIAATT	19.35	.0001	2,246	58.2070	29.1035	3
USEDISTA						
RECEPGEN	8.53	.0001	6,290	123.2560	20.5427	5
RECEPYOU	11.56	.0001	6,286	227.0579	37.8430	4
RECEPTIV	8.92	.0001	6,248	68.4861	11.4144	3
MEDIAATT	7.68	.0001	6,242	68.4861	11.4144	4
MAILTYPE ***						
RECEPGEN	2.41	.1213	1,298	6.6150	6.6150	1
RECEPYOU	1.66	.1985	1,293	6.6259	6.6259	1
RECEPTIV	0.17	.6803	1,193	.4514	.4514	1
MEDIAATT	0.54	.4623	1,186	.8857	.8857	1

* Alpha =.05; RECEPGEN=Attitude toward DE as general concept; RECEPYOU= Attitude toward DE use by respondent personally; RECEPTIV=Mean of five academic setting survey items; MEDIAATT= Mean of six DE media survey items.
** GRPS = number of significantly different groupings (Duncan), where two or more groupings denote sign.variance in values of indpt. variable over the dependent variable
*** MAILTYPE (Survey Mailing type, direct or by campus coordinators) calculated only for four-year respondents, since only direct mailing method was used for mailing to two-year faculty.

Table 4.14

Scale for Specifying Degree of Positivity or Negativity of Mean Scores on Measures of Faculty Attitudes Toward Distance Education*

	Descriptors with Mean Score Ranges									
Survey Variables	Very Positive	Moderately to Very Positive	Moderately Positive	Slightly to Moderately Positive	Slightly Positive	**(Neutral)** Slightly Negative	Slightly to Moderately Negative	Moderately Negative	Moderately to Very Negative	Very Negative
	1.0-1.99	2.0-2.99	3.00-3.49	3.50-3.74	3.75-3.99	4.0-4.24	4.25-4.49	4.50-4.99	5.0-5.99	6.0-7.0

* To be used with the two sets of DE attitude measures: (a) The five measures of attitudes toward DE in general and specific academic settings, RECEPGEN, RECEPYOU, RECEPCUS, RECEPPRO, RECEPYOU, and their average, RECEPTIV, and (b) The six measures of attitudes toward DE provision via specific media/methods, AUDICONF, VIDECONF, COMPCONF, AUDIGRPH, TELECOUR, CORRSTDY.

Table 4.15a

Analysis of Variance on DE as a General Concept Mean Scores of Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,297	19.2668	9.6334	3.56	.0297

Duncan's Multiple Range Test for Variable: RECEPGEN

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	4.00	105	2 (Research University)
A			
A	3.84	117	1 (Comprehensive University)
B	3.36	78	3 (Two-Year College)

Frequency missing = 6

Rankings and analysis of variance were similar for mean scores on personal use of DE (RECEPYOU), but scores were decidedly less positive than those on DE as a general concept. Two-year college faculty were slightly positive toward personal use of DE, while research and comprehensive university faculty attitudes were moderately negative (See Table 4.15b). Two-year faculty were significantly more positive in their attitudes (.05 level) than four-year faculty . In terms of RECEPTIV scores, two-year college faculty were moderately positive, while comprehensive university faculty were slightly negative, and research university faculty were moderately negative in their attitudes (See Table 4.15c). Again, two-year faculty were significantly more positive than four-year faculty.

Two-year college faculty were significantly more positive in their attitudes toward the provision of DE via six media or methods (MEDIAATT) than were comprehensive university faculty, who in turn were significantly more positive at the .05 level than research university faculty, based on their MEDIAATT scores (See Table 4.15d). While two-year college faculty overall reported slightly to moderately positive attitudes (where neutral = 4), comprehensive university faculty indicated slightly negative attitudes, and research university faculty reported slightly to moderately negative attitudes on this average of respondent attitudes toward the provision of distance education via six specific media or methods.

Academic position and faculty attitudes. Overall, faculty who were department or division chairs (N=86) held somewhat more positive attitudes toward the general concept of distance education, as indicated by DE as a general concept scores, than did other faculty, but the differences were not statistically significant (See Table 4.16a). Two-year college chairs, with moderately to very positive attitudes, were significantly more positive than comprehensive university chairs, who held slightly negative attitudes on the measure of attitudes toward DE as a general concept, while the mean scores of research university chairs, who held slightly to moderately positive attitudes, did not significantly differ from those of chairs at the other two kinds of institutions (See Table 4.16b). Two-year college

Table 4.15b

Analysis of Variance on Personal Use of DE Mean Scores of Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,292	53.4263	26.7131	6.95	.0011

Duncan's Multiple Range Test for Variable: RECEPYOU

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	4.75	101	2 (Research University)
A			
A	4.69	118	1 (Comprehensive University)
B	3.75	76	3 (Two-Year College)

Frequency missing = 9

Table 4.15c

Analysis of Variance on Average of Five DE Academic Settings
Mean Scores of Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,254	17.8029	8.9014	4.86	.0085

Duncan's Multiple Range Test for Variable:

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	4.26	92	2 (Research University)
A A	4.07	103	1 (Comprehensive University)
B	3.44	62	3 (Two-Year College)

Frequency missing = 18

Table 4.15d

Analysis of Variance on Average of Five DE Media Mean Scores of Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,246	37.2892	18.6446	11.73	.0001

Duncan's Multiple Range Test for Variable: MEDIAATT

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	4.71	89	2 (Research University)
B	4.27	99	1 (Comprehensive University)
C	3.69	61	3 (Two-Year College)

Frequency missing = 11

Table 4.16a

Analysis of Variance on DE as a General Concept Mean Scores of Department Chair and Non-chair Respondents Overall

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,293	4.0533	4.0533	1.48	.22__

Duncan's Multiple Range Test for Variable: RECEPGEN

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Position
A	3.84	220	2 (Non-Chair Faculty)
A			
A	3.59	80	1 (Chair)

Frequency missing = 7

Table 4.16b

Analysis of Variance on DE as a General Concept Mean Scores of Department Chairs by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,77	16.9825	8.4913	3.36	.0398

Duncan's Multiple Range Test for Variable: RECEPGEN

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping		Mean	N	Institutional Classification
	A	4.10	31	1(Comprehensive University)
	A			
B	A	3.52	27	2 (Research University)
B				
B		2.95	22	3 (Two-Year College)

Frequency missing = 1

chairs were significantly more positive in their attitudes toward the general concept of DE than were comprehensive university chairs, but their attitudes were not significantly more favorable than those of research university chairs.

Respondents who were assistant professors at research universities were significantly less positive (at the .05 level) toward the general concept of DE as measured by RECEPGEN (See Table 4.16c) and toward personal use of DE as measured by RECEPYOU (See Table 4.16d) than were respondents holding the same academic rank at comprehensive universities. Research university assistant professors were significantly less positive on average toward the general concept of DE than were their chairs (See Table 4.16e). The situation was reversed at comprehensive universities, where assistant professors were significantly more positive in their average attitudes toward the use of specific media in the provision of DE (MEDIAATT) than were department chairs (See Table 4.16f).

Academic department and faculty attitudes. Table 4.17 shows that faculty belonging to Business schools, colleges or divisions were, on average, significantly more positive (.05 level) in their receptivity to DE (attitudes toward personal participation), than were Physical Science faculty. On average, Business faculty indicated slightly positive receptivity to DE while Physical Science faculty were moderately unreceptive in their attitudes. Social Science faculty, while also moderately unreceptive on average, were somewhat more positive than Physical Science faculty, and their attitudes were not significantly different at the .05 level from those of Business or Physical Science faculty.

Age and years in current position and faculty attitudes. Significant differences in attitudes toward DE as a general concept as measured by RECEPGEN were not associated with the age or years in current position of respondents, as measured by answers to the item requesting self-reporting of age (See Tables 4.18a, 4.18b).

Gender and faculty attitudes. Female respondents overall were significantly more likely (at the .05 level) to view the use of specific media in distance teaching positively, as

Table 4.16c

Analysis of Variance on DE as a General Concept Mean Scores of Assistant Professors at Comprehensive and Research Universities

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,53	27.2516	27.2516	9.66	.0030

Duncan's Multiple Range Test for Variable: RECEPGEN

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	4.42	31	2 (Research University)
B	3.00	24	1 (Comprehensive University)

Frequency missing = 1

Table 4.16d

Analysis of Variance on Personal DE Use Mean Scores of
Assistant Professors at Comprehensive and Research Universities

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,53	20.9908	20.9908	6.44	.0141

Duncan's Multiple Range Test for Variable: RECEPYOU

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	5.28	29	2 (Research University)
B	4.04	26	1 (Comprehensive University)

Frequency missing = 2

Table 4.16e

Analysis of Variance on DE as a General Concept Mean Scores of
Assistant Professors and Department Chairs at Research Universities

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,56	11.7109	11.7109	4.74	.0337

Duncan's Multiple Range Test for Variable: RECEPGEN

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Academic Position
A	4.42	31	3 (Assistant Professor)
B	3.52	27	1 (Department Chair)

Frequency missing = 0

Table 4.16f

Analysis of Variance on Average of Six Mean Scores on DE Media of Assistant Professors and Department Chairs at Comprehensive Universities

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,43	10.3141	10.3141	4.74	.0350

Duncan's Multiple Range Test for Variable: MEDIAATT

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Academic Position
A	4.75	26	1 (Department Chair)
B	3.78	19	3 (Assistant Professor)

Frequency missing = 5

Table 4.17

Analysis of Variance on Personal Use of DE Mean Scores of All Respondents by Division/College

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
3,275	46.9726	15.6576	4.02	.0080

Duncan's Multiple Range Test for Variable: RECEPYOU

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping		Mean	N	School, Division or College
	A	4.92	78	1 (Physical Science)
	A			
B	A	4.63	91	3 (Social Science/Liberal Arts)
B	A			
B	A	4.47	17	4 (Other)
B				
B		3.91	93	2 (Business)

Frequency missing = 25

Table 4.18a

Analysis of Variance on Average of Five DE Academic Settings Mean Scores of Respondents by Age

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
4,248	5.8066	1.4517	.53	.7119

Duncan's Multiple Range Test for Variable: RECEPTIV

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Age
A	4.40	4	5 (65 years of age and over)
A			
A	4.10	82	2 (35-44 years of age)
A			
A	4.09	50	4 (55-64 years of age)
A			
A	4.06	26	1 (25-34 years of age)
A			
A	3.80	91	3 (45-54 years of age)

Frequency missing = 22

Table 4.18b

Analysis of Variance on Average of Five Mean Scores of Respondents on DE in General and Specific Academic Settings by Years in Current Position

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,225	.2900	.1450	.05	.9489

Duncan's Multiple Range Test for Variable: RECEPTIV

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Years in Present Position
A	3.96	114	3 (Ten or more years)
A			
A	3.92	106	2 (One to nine years)
A			
A	3.78	8	1 (Less than one year)

Frequency missing = 44

measured by MEDIAATT, the average of the six DE media items, than were male respondents (See Table 4.19a). While there were no significant differences in the attitudes of female and male faculty overall with regard to scores on DE as a general concept, women faculty at two-year colleges (N=19) were significantly more positive in their attitudes toward DE as a general concept, and in their cumulative scores on DE in general and specific academic settings, than were their male two-year counterparts (See Tables 4.19b and 4.19c). The scores of these female two-year college faculty on these two measures were the lowest for any respondent subgroup in the survey, in both cases indicating moderately to very positive attitudes.

Preferred duties and faculty attitudes. Significant differences were not evident in the attitudes toward personal use of DE or the attitudes toward DE via specific media of respondents based on their preference for teaching, research, or service duties in their roles as faculty. Faculty who most preferred teaching roles were more positive in their attitudes than those who most preferred research, but the difference was not significant at the .05 level (See Tables 4.20a, 4.20b).

Fourth Research Question: Experience, Familiarity and Faculty Attitudes

The fourth research question was " How do the attitudes of public higher education faculty toward college-credit distance education vary in relation to their previous use of distance education in instruction, their previous use of instructional media in instruction, and their prior knowledge of distance education?" An attempt was made to answer this research question through analysis of variance by PROC GLM of the three measures of previous experience and faculty attitudes in the survey: USEMEDIA, USEDISTA, and FAMDISTA (See Tables 4.21a, 4.21b, and 4.21c). Two-year college faculty were significantly more likely at the .05 level than four-year respondents to report using media in classroom teaching or distance education methods (See Tables 4.21a, 4.21b).

Table 4.19a

Analysis of Variance on Average of Six DE Media Mean Scores of Respondents by Gender

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr >
1,214	9.7749	9,7749	6.15	.0139

Duncan's Multiple Range Test for Variable: MEDIAATT

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Gender
A	4.44	164	2 (Male)
B	3.95	52	1 (Female)

Frequency missing = 44

Table 4.19b

Analysis of Variance on DE as a General Concept Mean Scores of Two-Year College Respondents by Gender

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,69	12.4688	12.4688	5.16	.0262

Duncan's Multiple Range Test for Variable: RECEPGEN

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Gender
A	3.72	46	2 (Male)
B	2.84	25	1 (Female)

Frequency missing = 8

Table 4.19c

Analysis of Variance on Avearge of Five DE Academic Settings Mean Scores of Two-Year College Respondents by Gender

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,55	12.0088	12.0088	4.78	.0330

Duncan's Multiple Range Test for Variable: RECEPTIV

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Gender
A	3.78	38	2 (Male)
B	2.81	19	1 (Female)

Frequency missing = 3

Table 4.20a

Analysis of Variance on Personal Use of DE Mean Scores
Of All Respondents by Preferred Duties

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
3,261	11.7453	3.9151	0.98	.4025

Duncan's Multiple Range Test for Variable: RECEPYOU

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Preferred Duties
A	4.76	63	2 (Research)
A			
A	4.44	84	4 (No Preference)
A			
A	4.39	112	1 (Teaching)
A			
A	3.50	6	3 (Service)

Frequency missing = 39

Table 4.20b

Analysis of Variance on Average of Six DE Media Mean Scores of All Respondents by Preferred Duties

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
3,215	12.4084	4.1361	2.56	.0559

Duncan's Multiple Range Test for Variable: MEDIAATT

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Preferred Duties
A	4.57	55	2 (Research)
A			
A	4.47	66	4 (No Preference)
A			
A	4.27	5	3 (Service)
A			
A	4.04	93	1 (Teaching)

Frequency missing = 41

Table 4.21a

Analysis of Variance on Previous Use of Instructional Media Mean Scores of All Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,297	64.8348	32.4174	11.02	.0001

Duncan's Multiple Range Test for Variable: USEMEDIA

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	4.72	106	2 (Research University)
A			
A	4.35	114	1 (Comprehensive University)
B	3.54	80	3 (Two-Year College)

Frequency missing = 9

Table 4.21b

Analysis of Variance on Previous Use of DE Mean Scores of All Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,311	88.6432	44.3216	15.87	.0001

Duncan's Multiple Range Test for Variable: USEDISTA

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	5.81	111	2 (Research University)
A			
A	5.60	122	1 (Comprehensive University)
B	4.593	83	3 (Two-Year College)

Frequency missing = 8

Familiarity with the term 'distance education.' Among the three experience/familiarity variables, the most significant in terms of variance on DE as a general concept mean scores was FAMDISTA, or familiarity with the term 'distance education.' Research university faculty reported significantly less familiarity with this term than did faculty at comprehensive universities or community colleges (See Table 4.21c). Department chairs were more likely to be familiar with the term than were other faculty at all three kinds of institutions (See Tables 4.21d and 4.21e), although only among two-year college respondents were the differences in mean scores of chairs and nonchairs statistically significant at the .05 level (See Table 4.21f).

When mean scores were calculated across institutional type by highest academic unit (See Table 4.21g), there were no significant differences in reported familiarity with distance education, but interesting patterns appeared nonetheless. At comprehensive universities, Business and Social Science/Liberal Arts faculty reported being somewhat familiar with the term 'distance education', on average, while Physical Science faculty reported being somewhat familiar to not familiar all with the term. At research universities, faculty from all three colleges or divisions reported being somewhat familiar to not familiar at all with DE, with nearly identical scores on this measure. Two-year faculty from Physical Science and Business divisions reported being somewhat familiar with DE, with identical scores, while Social Science/Liberal Arts faculty reported being somewhat familiar to not familiar at all with DE.

Previous use of distance education. Previous experience with distance teaching in higher education also varied across institutions by academic rank and highest academic unit. Although the differences were not significant for all chairs when compared to all nonchairs, two-year college department chairs were significantly more likely to report

Table 4.21c

Analysis of Variance on Familiarity with DE Mean Scores of All Respondents by Institutional Classification

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,314	6.8736	3.4368	7.17	.0009

Duncan's Multiple Range Test for Variable: FAMDISTA

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Institutional Classification
A	2.45	112	2 (Research University)
B	2.16	123	1 (Comprehensive University)
B B	2.11	82	3 (Two-Year College)

Frequency missing = 6

Table 4.21d

Analysis of Variance on Familiarity with DE Mean Scores of Two-Year Respondents by Academic Rank

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
2,79	4.5268	2.2634	4.11	.0200

Duncan's Multiple Range Test for Variable: FAMDISTA

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Academic Rank
A	2.28	43	2 (Faculty in Tenure System)
A			
A	2.18	17	3 (Other Faculty)
B	1.78	22	1 (Division or Dept. Chair)

Frequency missing = 2

Table 4.21e

Mean Scores of Four-Year Respondents on Familiarity with term 'Distance Education' by Type of Institution and Academic Position

Type of Institution	Variable	Academic Position: Department Chair (n)	Assoc./Full Professor (n)	Assistant Professor (n)	All Professors (n)
Comp. University	FAMDISTA	1.97 (32)	2.27 (64)	2.15 (26)	2.16 (123)
Research University	FAMDISTA	2.36 (28)	2.42 (48)	2.54 (35)	2.45 (112)
All 4-Year Institutions	FAMDISTA	2.15 (60)	2.33 (112)	2.38 (61)	2.30 (235)

Table 4.21f

Mean Scores of Two-Year College Respondents on Previous Use of DE by Institutional Classification and Academic Position

Type of Institution	Variable	Academic Position: Department Chair (n)	Tenur(ed/able) Professors (n)	Other Faculty (n)	All Professors
Two-Year College	FAMDISTA	1.73 (22)	2.28 (43)	2.18 (17)	2.11 (82)

Table 4.21g

Mean Scores of Four-Year Respondents on Familiarity with Term 'Distance Education' by Type of Institution and Division/College

Type of Institution	Variable (N)	Mean Scores on FAMDISTA by Division/College			
		Physical Science	Business	Social Sci. & Liberal Arts	Other Departments
Comp. University	FAMDISTA	2.41 (37)	2.03 (35)	2.10 (41)	2.00 (10)
Research University	FAMDISTA	2.44 (25)	2.42 (33)	2.50 (36)	------ (0)
All 4-Year Institutions	FAMDISTA	2.42 (62)	2.22 (68)	2.29 (77)	2.00 (10)
Comm. College	FAMDISTA	2.00 (21)	2.00 (27)	2.42 (24)	1.86 (8)
All Respondents	FAMDISTA	2.31 (83)	2.16 (95)	2.32 (101)	1.94 (18)

previous use of distance education than were other two-year faculty (See Table 4.21h). There were no significant differences in reported previous use of DE on the basis of division or college, although Business faculty reported somewhat more previous experience than Social Science faculty, who in turn reported more experience than Physical Science faculty (See Table 4.21i).

Mailing Status and Faculty Attitudes

Two methods were used in the mailing of the survey instrument to faculty at four-year institutions: direct mailing, and mailing via coordinators on individual campuses. Analysis of variance revealed no significant differences in the attitudes of respondents in the direct or coordinator mailings toward any of four major measures of attitudes toward distance education. For example, direct mail survey four-year respondents averaged 4.11 on RECEPTIV, the average of the five items on DE in general and specific academic settings, while coordinator mail survey four-year respondents (N=90) had a mean score of 4.21 on this item, which was not significantly different at the .05 level (See Table 4.22).

Content Analysis

Fifth Research Question: Faculty Rationales for DE Attitudes

The fifth research question was "How do faculty at public institutions of higher education in the U.S. rationalize (1) their own perceived attitudes toward the concept of distance education, (2) their perceptions of whether distance education should or should not be used at their own institution, and (3) their perceptions of the adequacy of rewards for faculty who participate in distance education at their college or university?" This research question was answered through content analysis of answers to three open-ended items at the end of the survey.

The categorization of replies to open ended questions based on content appears in

Table 4.21h

Analysis of Variance on Previous Use of DE Mean Scores of Two-Year Chair and Non-Chair Faculty

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,80	15.7041	15.7041	4.16	.04

Duncan's Multiple Range Test for Variable: USEDISTA

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Two-Year Faculty Type
A	4.7667	60	2 Non-Chair Faculty
B	3.7619	21	1 Division/Department Chair

Frequency missing = 1

Table 4.21i

Analysis of Variance on Previous Use of DE Mean Scores of All Respondents by College/Division

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
3,289	35.1413	11.7138	4.00	.0082

Duncan's Multiple Range Test for Variable: USEDISTA

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	College/ Division
A A	5.93	82	1 (Physical Science)
A A	5.38	100	3 (Social Science/Liberal Arts)
A A	5.22	18	4 (Other)
A	5.04	93	2 (Business)

Frequency missing = 28

Table 4.22

Analysis of Variance on Average of Mean Scores on Five Items on DE in General and Specific Academic Settings of All Respondents by Method of Survey Mailing

General Linear Models Procedure

df	Type III SS	Mean Square	F Value	Pr > F
1,193	.4514	.4514	.17	.6803

Duncan's Multiple Range Test for Variable: RECEPTIV

Alpha=0.05 Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Method of Mailing
A	4.11	105	1 (Direct Mailing)
A			
A	4.21	90	2 (Coordinator Mailing)

Frequency missing = 10

Appendix D, while the full text of the answers given by respondents to these three items, arranged by institutional classification, appears in Appendix E. Possible individual or institutional identifiers were deleted from the answers as printed, to respect the confidentiality of respondents. The second and third open-ended questions were alternated, so that only half of all potential respondents had the opportunity to answer each one. The answer of each respondent to the basic question posed in each of the two open-ended questions he or she had the opportunity to answer was first classified as affirmative or negative, implicit or explicit, qualified or unqualified, or as ambivalent or as a "non-answer" to the question at hand. After this basic analysis of opinions, additional comments or information beyond the basic answer were subjected to further analysis. These answers were analyzed both for the basic answers given to the question posed, and for the additional information and rationales offered by respondents.

The classification system used in content analysis of additional comments was based on basic divisions frequently noted in the literature, including access and quality concerns, expected benefits and barriers to implementation, and opinions about media and methods. The categories were to some extent dictated by the three questions posed, since they tended to elicit additional comments in related areas. Analysis of these additional comments was critical in answering the fifth research question, which concerned the reasons why faculty felt as they did about distance education. A summary of the content analysis appears in Appendix D.

First Open-ended Question: Do You Like the General Concept of DE?

About 66% of respondents returning a usable survey answered the first open-ended question, "Do you like the general concept of distance education? Why or why not?". Of these, 52.2% said yes, although 37% of these affirmative answers were qualified and 15% were implicit. Around 32.1% of responding faculty said they did not like the general concept of DE, and the rest gave ambivalent answers or answered without actually

expressing an opinion. As might be expected, those who expressed positive attitudes on the earlier closed-answer measure of attitudes toward DE as a general concept were more likely to answer the first open-ended question affirmatively.

Further analysis of answers to the first open-ended question. Among those respondents providing answers to the first open-ended question, "Do you like the general concept of distance education? Why or Why not?," 94 respondents (45.0%) mentioned concerns about the quality of interaction in the educational process. Eighty-one references were made about the quality of teacher-student interaction, most referring to the relative lack of direct face-to-face contact in distance education. Twelve respondents expressed concern about the lack of student-student interaction. An associate professor of Political Science at a comprehensive university explained that he did not like DE because "face to face interaction is part of what I consider education -- distinct from transferring information or skills."

Other quality concerns. Thirty-one faculty (14.8%) responding to the first open-ended question cited negative perceptions of the comparability of distance teaching to conventional instruction, while only eight (3.8%) compared DE positively to traditional methods. Twenty-nine respondents (13.9%) voiced concerns about a perceived lack of affective and/or social development on the part of distance students. Twenty respondents (9.6%) noted a possible lack of learner access to resources needed for college study. Sixty-seven respondents (32.1%) answering the first open-ended question noted qualifications they would make on the use of distance education, including qualifications on methods used, appropriate subject matter, and potential DE students. For instance, a Chemistry teacher at a comprehensive university, noting that he had been a science course tutor at the Open University (United Kingdom) before emigrating to the U. S., stated that "It [DE] works well for well-motivated students (there are plenty of such students in the U.K.). So from my experience it can work well." In all, 273 references to concerns about the quality of DE were made by respondents explaining their attitudes toward the general concept of DE.

Access to higher education. In explaining their viewpoints, 59 respondents (28.2%) answering the first open-ended question cited the benefits of increased access to higher education via DE. Respondents cited expanded geographical and temporal access, as well as expanded access for the homebound, handicapped, and incarcerated. It was not uncommon, even among respondents who held favorable attitudes toward teaching at a distance, to cite both the benefits of increased access and the drawbacks of constraints on interaction or potential barriers to quality or effectiveness in the same answer. For instance, the chair of a general education division at a Western two-year college, in noting his support for the new access provided by a nearby college via video-based DE, also stated his belief that "unless each downlink site has a live interactive co-instructor/aide the impact of DE is potentially limited."

Specific media. In response to the first open-ended question, 25 positive references and 12 negative ones were made to specific media. Visual media were cited most often, usually positively, although several references were made to the lack of visual interactivity in most video applications.

Barriers and benefits. Thirty-five respondents (16.7%) cited anticipated benefits of distance education, while 39 respondents (18.7%) cited obstacles or barriers to the success of DE. Cost-effectiveness was the most commonly cited anticipated benefit of DE (14 respondents), while negative faculty attitudes and budget concerns were among the most frequently given obstacles or barriers.

Second Open-ended Question: Will Participating Faculty Be Adequately Rewarded?

About 38.5% of respondents providing usable responses answered the second open-ended question, "In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?" Slightly more answered affirmatively (45.1%) than negatively (36.9%).

Further analysis of answers to the second open-ended question. In explaining their attitudes toward the second open-ended question, respondents gave complex and diverse answers. While 29 respondents (23.4%) gave rationales that indicated they felt they would be adequately rewarded for participation in DE, most commonly citing a belief that participation in DE would be rewarded the same as participation in other teaching activities, other respondents cited a number of factors indicating that they perceived rewards as inadequate. Thirteen respondents (10.7%) felt that actual or potential financial rewards were inadequate. Ten respondents (8.2%) simply felt that they would not be rewarded, while another ten respondents indicated that research was valued over teaching of any kind at their institution.

Other faculty indicated indirectly that they felt they would not be rewarded, or that disincentives to participate outweighed incentives. Twelve respondents (9.8%) cited concerns about additional workloads. Twelve respondents indicated that they or other faculty held negative attitudes toward DE or faculty participating in it, while nine respondents (7.4%) indicated distrust of the motives of administrators who introduced DE. Only four respondents indicated that they expected administrative support for faculty participating in DE at their institution.

Third Open-ended Question: Should Your Institution Use DE?

The third open-ended question, "Whether or not (in your opinion) your institution makes significant use of distance education methods, should it be doing so?", was answered by 27.1% of all respondents. Sixty-four percent of those responding to this question said that their institution should be using DE, while 17.4% said it should not. The rest gave ambivalent answers or did not answer the question posed.

Further analysis of answers to the third open-ended question. Rationales given in response to the third open-ended question were similar to those given in response to the first open-ended question, although comments were more likely to focus on the institution

than on the individual faculty member. Thirty-eight respondents (44.2%) cited quality concerns, while 15 respondents (17.4%) noted the potential for expanded access to higher education. Fourteen respondents (16.3%) cited obstacles or barriers to DE, while 18 respondents (20.9%) named potential benefits. In terms of quality concerns, nine respondents (10.5%) expressed misgivings about the lack of direct face-to-face interaction in DE, while seven respondents (8.1%) had negative perceptions of the comparability of DE to conventional instruction and three (3.5%) cited concerns about a lack of affective or social development on the part of DE students. Three respondents compared DE favorably to conventional instruction. Nineteen respondents (22.1%) offered comments qualifying the use of distance education methods, the subject matter for which DE was appropriate, or the type of students with whom it could be used, including three respondents who felt that DE was feasible in their fields. Two respondents expressed interest in further research on DE.

Expanded access. Fifteen respondents (17.4%) cited the expansion of access to higher education via DE. Eight respondents (9.3%) noted expanded geographical access, while others cited expanded access to nontraditional students, homebound students, learners in the workplace, minority students or the incarcerated. Three respondents (3.5%) felt that off-campus classroom study rather than DE should be used to expand access.

Use of media and benefits/barriers. Eleven respondents (12.8%) made ten positive and two negative references to DE media. Most of these references were about telecourses. In terms of barriers or obstacles, there were five references to workload or resource concerns, four to distrust of administrator motives or a perceived lack of administrative support for DE, and eight to a perceived lack of adequate funding. On the benefits side, nine references were made to the cost-effectiveness of DE, three to better distribution of knowledge or teaching via DE, and two to the advantages to their institution of engaging in DE consortia. Five respondents (5.8%) cited present or future expansion of DE use by their institution.

Summary

Respondent Characteristics: Summary

Representativeness of sample. When compared with national faculty demographics reported by the NCES, department and division chairs were overrepresented, and assistant professors at four-year universities and tenured faculty at two-year colleges were somewhat underrepresented in the survey for the present study. This over- and underrepresentation was a result of the method of choosing the sample, which was intended to produce similar numbers of faculty of different ranks.

Academic position. About 26% of the 235 four-year faculty who indicated their academic position reported that they were department chairs, while 48% identified themselves as associate or full professors other than chairs, and 26% as assistant professors. About 26% of the 84 two-year college respondents identified themselves as department or division chairs, while just over half reported that they were tenured or tenure-track faculty other than chairs. Among the remaining faculty, ten percent reported being instructors, seven percent said they were professors without rank, and six percent reported holding other positions.

Academic department or division. Of the 294 faculty overall who indicated their academic unit, about 28% belonged to a division, school or college of Physical Science, 31% to a Business division, school or college, and 34% to a Social Science or Liberal Arts division, school, or college. At four-year universities, about 26% of the 217 faculty who named their academic department belonged to Chemistry departments, while about 25% were Marketing faculty and 31% were Political Scientists. A substantial percentage, 18%, belonged to departments not limited to these three disciplines.

Years in present position. A little over half of responding faculty reported that they had held the position they held now for ten or more years. A majority of research university faculty (55.3%) reported spending one to nine years in their current position,

while most two-year faculty (72.3%) reported holding their present position for ten or more years.

Age. Almost two in three responding faculty indicated that they were 35 to 54 years of age. More than seven in ten comprehensive university and two-year college faculty fell into this age bracket, while only about 54% of research university faculty did so, due to higher frequencies of younger and older faculty.

Gender. Of the 278 faculty reporting their gender, about one-quarter indicated that they were female and three-quarters that they were male. The percentage of women faculty among respondents was smallest at research universities (17.7%) and largest at two-year institutions (33.8%).

Preferred duties. Almost half of research university faculty indicating role preferences preferred research, while about four in ten had no preference. On the other hand, over seven in ten two-year faculty reported a preference for teaching, while only about one in a hundred preferred research. The role preferences of comprehensive university faculty lay in between those of research university and two-year college faculty. Less than one percent of respondents reported a preference for service activities over teaching and research.

Geographical location and institutional classification. About 26% of all responding faculty worked at institutions of higher education located in the North Central region, 26% at schools in the Southern region, 16% in the East, and 33% in the Far West. The response rate of Far West faculty (73%) was highest, while that of Eastern faculty (50%) was lowest. Of the 317 total public higher education faculty responding to the survey, about 39% were employed by comprehensive universities, 36% by research universities, and 26% by two-year colleges. These percentages were fairly similar to those needed for an ideal stratified sample of public higher education as a whole, if only these three institutional classifications were included in the sampling process.

Statistical Procedures Used in Analysis: Summary

Usable responses were analyzed using the Statistical Analysis System, or SAS. Frequencies and means were obtained, and the Statistical Analysis System (SAS) General Linear Model Procedure (PROC GLM) and paired t-tests were used in the analysis of variance.

First Research Question: Indicators of Overall Faculty Attitudes toward DE: Summary

Attitudes toward five items on DE in general and academic settings. Faculty surveyed held, on average, slightly positive general attitudes toward the general concept of distance education. Responding faculty were more favorable to the development and distribution of DE via consortia in which their institution participated than toward any of the other four items in this group, reporting slightly to moderately positive attitudes on this item. Surveyed faculty indicated slightly positive attitudes overall toward DE in the most general academic setting, 'college and university programs'. Respondents indicated that they held, on average, slightly to moderately negative attitudes toward DE use in their own academic programs. The lowest mean score score for respondents on any of these five items, indicating a slightly to moderately negative attitude, was usually their score on the item dealing with personal participation in DE by the respondent in his or her program. Two-year college Business faculty stood out as the only respondent grouping who were, on average, more positive toward the personal use of DE than they were toward DE as a general concept.

An average score on DE in different settings. Scores on the five measures of attitudes toward DE in academic and general academic settings were averaged together to form an overall score on DE in academic settings. The mean score on this average of five items (3.99) indicated slightly positive attitudes on the part of responding faculty overall toward DE in general and specific academic settings.

Second Research Question: Attitudes toward DE via Specific Media: Summary

Attitudes toward DE media. Media and methods used in the provision of distance education, from most positively perceived to least positively perceived, were videoconferencing, telecourse study, audiographics, computerconferencing, correspondence study, and audioconferencing. Overall attitudes toward the two video media were slightly to moderately positive, while attitudes toward the third and fourth most popular media, both computer-based, were slightly negative. Attitudes toward the least popular two media were moderately negative. Two year faculty, on average, preferred telecourses slightly more than videoconferencing, while the reverse was true for four-year faculty. In both cases, attitudes toward video media did not significantly differ.

An average DE media score. As with the five items on faculty attitudes, which were averaged to create an overall score, the six items on DE media were averaged to create an overall DE media attitude score. Respondents held slightly to moderately negative attitudes toward DE media overall (M=4.29).

Third Research Question: Demographic/Professional Characteristics and Faculty Attitudes: Summary

Four major measures of DE attitudes. In order to answer the third research question, eight demographic and professional characteristics were considered in relation to four of the measures of faculty attitudes discussed in the preceding section: (1) Attitude toward DE as a general concept; (2) Attitude toward personal involvement in distance teaching; (3) The average score on items related to attitude toward DE in general/specific academic settings; and (4) The average score on items related to attitude toward the use of specific media in DE delivery.

Geographical location, institutional classification and faculty attitudes. While scores on the four major measures of DE attitudes did not differ by geographical location, they did differ significantly based on institutional classification. On average, two-year college

faculty taking part in the survey were moderately positive in their attitudes toward the general concept of distance education, while comprehensive university faculty were slightly positive, and research university faculty held neutral attitudes. Two-year college respondents were significantly more positive than responding university faculty.

Academic position and faculty attitudes. Two-year college chairs, with moderately to very positive attitudes, were significantly more positive in their attitudes toward the general concept of DE than were comprehensive university chairs, who held slightly negative attitudes, but the attitudes of two-year college chairs were not significantly more favorable than those of research university chairs, who held slightly positive attitudes toward DE as a general concept.

Respondents who were assistant professors at research universities were significantly less receptive on average to the general concept of DE than their department chairs or assistant professors at comprehensive universities. Comprehensive university assistant professors, on the other hand, were significantly more positive in their attitudes toward the use of specific media in the provision of DE than were their department chairs.

Academic department and faculty attitudes. Faculty belonging to Business schools, colleges or divisions at both two- and four-year institutions were, on average, significantly more positive in their receptivity to DE (attitudes toward personal participation), than were Physical Science faculty. On average, only Business faculty indicated positive attitudes toward personal use of DE. Social Science faculty were moderately unreceptive in their attitudes, while Physical Science faculty were least receptive, with moderately to very unreceptive attitudes toward personal DE use.

Age and years in current position and faculty attitudes. Significant differences in attitudes toward DE in general and specific academic settings as measured by RECEPTIV were not associated with the age or years in current position of respondents, as measured by answers to the item requesting self-reporting of age (See Tables 4.18a, 4.18b).

Gender and faculty attitudes. Female respondents overall were significantly more likely to view the use of specific media in distance teaching positively, as measured by the average of their mean scores on the six DE media items. While there were no significant differences in the attitudes of female and male faculty overall with regard to attitudes toward DE as a general concept, or the average of their scores on the five items on DE in general and specific academic settings, women faculty at two-year colleges were significantly more positive than were their male two-year counterparts on these measures. Female two-year college faculty held the most positive attitudes of any respondent subgroup in the survey on these two measures, in both cases holding moderately to very positive attitudes.

Preferred duties and faculty attitudes. Significant differences were not evident in the attitudes toward DE of respondents based on their preference for teaching, research, or service duties in their roles as faculty.

Fourth Research Question: Previous Experience, Familiarity and Faculty Attitudes: Summary

Among the three experience/familiarity variables, attitudes toward DE as a general concept varied most significantly across the measure of familiarity with the term 'distance education', but also varied significantly across the measure of previous use of distance education. Two-year college department chairs were significantly more likely to be familiar with the term 'distance education' and to report previous use of distance education than were other two-year faculty. Two-year college faculty as a whole were significantly more likely than other respondents to report previous use of media in classroom teaching or distance education methods.. Respondents belonging to Business academic units were significantly more likely to have used distance education methods than were Physical Science faculty.

Mailing Status and Faculty Attitudes: Summary

Analysis of variance revealed no significant differences in the attitudes of respondents in direct or coordinator mailings toward any of four major measures of attitudes toward distance education.

Fifth Research Question: Faculty Rationles for DE Attitudes: Summary

About 66% of respondents returning a usable survey answered the first open-ended question, "Do you like the general concept of distance education? Why or why not?" Of these, 52.2% said they liked the general concept of DE, while 32.1% of responding faculty said they did not, and the rest gave ambivalent answers or no direct answer.

Of the 209 faculty answering the first open-ended question, 94 (45%) mentioned concerns about the quality of interaction in the educational process. About 15% cited negative perceptions of the comparability of distance teaching to conventional instruction, while only four percent compared DE positively to traditional methods. About 14% voiced concerns about a perceived lack of affective and/or social development on the part of distance students, while three in ten respondents answering the first open-ended question noted qualifications they would make on the use of distance education, including qualifications on methods used, appropriate subject matter, and potential DE students. In all, 273 references to concerns about the quality of DE were made by respondents explaining their attitudes toward the general concept of DE.

In explaining their viewpoints, about 28% of respondents answering the first open-ended question cited the benefits of increased access to higher education via DE. It was not uncommon, even among respondents who held favorable attitudes toward teaching at a distance, to cite both the benefits of increased access and the drawbacks of constraints on interaction or potential barriers to quality or effectiveness in the same answer.

In response to the first open-ended question, 25 positive references and 12 negative ones were made to specific media. Visual media were cited most often, usually positively,

although several references were made to the lack of visual interactivity in most video applications. About 17% of responding faculty cited anticipated benefits of distance education, while 19% cited obstacles or barriers to the success of DE. Cost-effectiveness was the most commonly cited anticipated benefit of DE, while negative faculty attitudes and budget concerns were among the most frequently given obstacles or barriers.

The second open-ended question was "In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?" Of the 39% of respondents providing written responses to the second question, slightly more answered affirmatively (45.1%) than negatively (36.9%).

While 23% of respondents mentioned factors that indicated they felt they would be adequately rewarded for participation in DE, most commonly citing a belief that participation in DE would be rewarded the same as participation in other teaching activities, many respondents cited factors indicating that they perceived rewards as inadequate, including inadequate financial rewards and the valuing of research over teaching. Responding faculty also indicated disincentives to participate that might outweigh incentives, including concerns about additional workloads, negative attitudes toward DE or participating faculty, and distrust of the motives of administrators introducing DE.

The third open-ended question, "Whether or not (in your opinion) your institution makes significant use of distance education methods, should it be doing so?", was answered by 27.1% of all respondents. Sixty-four percent of those responding to this question said that their institution should be using DE, while 17.4% said it should not. The rest gave ambivalent answers or no direct answer.

Rationales given in response to the third open-ended question were similar to those given in response to the first open-ended question, although comments were more likely to focus on the institution than on the individual faculty member. Forty-four percent of respondents cited quality concerns, while 17% noted the potential for expanded access to higher education via DE. Sixteen percent cited obstacles or barriers to DE, while 21%

named potential benefits. Barriers or obstacles cited included a lack of adequate funding, workload or resource concerns, distrust of administrator motives and a perceived lack of administrative support, while potential benefits cited included the marketing advantages of DE and its cost-effectiveness. Twelve percent referred to specific DE media, especially telecourses, usually in a positive manner.

Chapter V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to describe and analyze the attitudes of faculty at public U. S. institutions of higher education toward college-credit distance education (DE). A nationwide survey of faculty in three academic disciplines at U. S. public research universities, public comprehensive institutions I (referred to hereafter as public comprehensive universities), and public two-year institutions with general transfer programs and enrollments of over 6,000 (referred to hereafter as two-year colleges) was undertaken in an attempt to provide an accurate estimate of the attitudes of U. S. higher education faculty as a whole toward college-credit DE. Usable surveys were returned by 66% (317 of 480) of the faculty surveyed.

On average, respondents held slightly positive attitudes toward DE as a general concept, and slightly to moderately positive attitudes toward the development and distribution of DE by educational consortia in which their institution took part. The respondents indicated a slightly positive attitude overall toward DE in college and university programs, slightly to moderately negative attitudes toward DE use in their own academic programs, and a lower but still slightly to moderately negative attitude toward personal use of DE. Two-year and comprehensive university faculty held a positive attitude toward DE as a general concept, while research university faculty were neutral, on average. Assistant professors were significantly more positive in their attitudes toward DE than chairs at comprehensive universities, but at research universities, chairs were significantly more positive than assistant professors. Women were significantly more positive than men at two-year institutions, and faculty in schools, colleges or divisions of Business were significantly more positive than faculty in schools, colleges or divisions of Physical Science overall.

Respondents reported slightly positive attitudes toward two visual media, videoconferencing and telecourse study, slightly negative attitudes toward two computer-based media (audiographics and computerconferencing), and moderately negative attitudes toward correspondence study and audioconferencing. Variation across measures of faculty attitudes toward DE in terms of previous experience with distance education and familiarity with the term 'distance education' was highly significant. Those reporting a great deal of previous DE experience and those reporting they were very familiar with DE reported moderately to very positive attitudes on most measures, while those with little or no experience and those with no familiarity reported moderately negative attitudes on a majority of measures.

Conclusions

The findings of this study suggest that cautious optimism is warranted regarding the future of distance education in U. S. colleges and universities. However, more research is needed to accurately describe faculty attitudes toward this innovation, and to determine the relative importance of this and other factors that may assist or hinder the adoption of this innovation in U. S. higher education.

Research Questions and Faculty Attitudes Toward DE: Conclusions

The first research question was, "Do public higher education faculty in the United States hold negative or positive attitudes toward the teaching of college-credit courses by distance education methods?" The answer to this question was complex.

The limited nature of the stratified sample to whom the survey instrument was administered meant that the best that could be expected in terms of conclusions from the results was a rough estimate of the attitudes of U. S. higher education faculty toward distance education. That faculty overall were slightly positive toward the general concept of distance education suggests that the prospects for the "mainstreaming" of distance education in U. S. colleges and universities are fairly good. The finding that surveyed

faculty as a whole held slightly to moderately positive attitudes toward their own institution's participation in the development and distribution of DE via educational consortia was of extreme interest. Increasing participation in DE consortia may be a way of increasing the use of distance education in U. S. higher education that will be viewed favorably by college and university faculty.

The slightly to moderately negative attitudes of faculty toward personal use of DE suggested a need for continued demonstration of quality in DE through highly visible assessment activities, and for continued dissemination of knowledge about successful, high-quality distance education programs in many fields. A substantial number of respondents felt that participants in DE would be viewed negatively by other faculty in their fields, a problem that may be partially alleviated through a continued emphasis on the recruitment of highly regarded faculty for participation in DE.

The second research question was,"How are the professional and demographic characteristics of faculty at public institutions of higher education related to their attitudes toward college-credit distance education?" Findings that two-year faculty were most positive, research university faculty least positive, and comprehensive university faculty in-between in terms of their DE attitudes suggest that in institutions of higher education where teaching is more highly valued, faculty are more likely to support alternative methods of instruction. It also lends support to the argument that faculty at public research universities, which are often the "flagship" educational institutions in their state, yet often have legislated duties to increase statewide access to higher education, find this public service mission less compelling than the mission of educational excellence with which their universities are also charged -- especially assistant professors who must concentrate on research and publication to achieve tenure.

It is likely, based on the findings, that U. S. higher education faculty in different Physical Science disciplines are less positive in their DE attitudes than faculty in Business-related disciplines, due at least partially to the traditional reliance on "hands-on" laboratory

methods in Physical Science, and the familiarity of some Business faculty with the burgeoning use of distance education methods in corporate business training. It is also likely that additional differences exist in the attitudes of higher education nationwide based on institutional type and department or discipline, but the present study, with its narrow and small stratified sample, did not succeed in delineating them. Similarly, differences may exist within disciplines on the basis of academic rank and tenure, preferred duties, and age, which could not be studied with such a small sample.

It appears reasonable based on the findings of this study to expect women and chairpersons in public higher education, especially at two-year institutions, to hold significantly more positive attitudes toward DE than men, although there may be little difference in the initial attitudes of male and female higher education faculty toward personal participation in distance teaching -- which means that women may not lead as strongly in the adoption of distance education in higher education as would seem likely based on the scores in this study of women on the other three major measures of DE attitudes.

The third research question was, "How do the attitudes of public higher education faculty toward college-credit distance education vary in relation to their previous use of distance education in instruction, their previous use of instructional media in instruction, and their prior knowledge of distance education?" The findings supported the positive correlation between previous experience and familiarity and DE attitudes, suggesting that activities which increase the familiarity of higher education faculty with successful DE practices will also facilitate their adoption of DE .

The fourth research question was, "Do the attitudes of faculty at public institutions of higher education in the United States toward college-credit distance education vary significantly with regard to the kinds of instructional media or methods that might be used in teaching at a distance?"

It appears likely, based on the findings of this study, that video media, which may be considered the closest in their attributes to the face-to-face classroom experience, are likely to be considered more readily for adoption by most higher education faculty than methods such as audioconferencing and correspondence study, with receptivity to computer-based DE teaching methods such as computerconferencing and audiographics falling somewhere in-between. The preference for immediate interactivity of many university faculty respondents may help explain moderately negative attitudes toward correspondence study in the present study, but the finding that audioconferencing was the least liked media and the support of two-year faculty for telecourses suggests that having a visual component to learning was more important to many respondents than interactivity.

Higher education faculty may fill in their own media or method preferences when asked about DE without specific reference to particular media or methods. Wide variations in U. S. higher education faculty attitudes toward different DE media and academic settings may be the rule rather than the exception.

The fifth and final research question was, "How do faculty at public institutions of higher education in the U.S. rationalize (1) their own perceived attitudes toward the concept of distance education, (2) their perceptions of whether distance education should or should not be used at their own institution, and (3) their perceptions of the adequacy of rewards for faculty who participate in distance education at their college or university?" Answers to the open-ended questions suggested that the expression of quality concerns should not be equated with negative attitudes toward DE, but should rather be seen as part of the process by which faculty examine the merits of a potential instructional innovation. While the representativeness of answers to the open-ended questions may be called into question, it is still likely that a substantial minority, if not a majority, of higher education faculty view DE favorably as a general concept and when used at their institution, despite questions about quality and appropriate use.

Limitations of the Study

Survey results may not be generalizable to faculty at U. S. institutions of higher education other than public research universities, comprehensive institutions I, and two-year institutions of higher education with general transfer programs. A number of limitations were apparent in the survey instrument. In the item on years in position, it would have made more sense to ask respondents how long they had been college teachers, and to have provided demographic categories for responses that matched those used by the National Center for Education Statistics (NCES) in its statistical research.

The question on faculty role preferences might have produced more clear-cut results if faculty had been asked to rate teaching, research and service on separate Likert-type scales, both in terms of personal preference and relative importance in gaining tenure (where applicable). Another possible way of refining this question would have been to ask respondents if they "leaned" toward research or toward teaching, as was done in the Carnegie Foundation's 1989 Condition of the Professoriate study.

Just as the survey instrument could have been constructed in a more useful manner, the method of survey distribution and followup might have been more efficacious as well. The coordinator method might have been more successful if the survey had been sponsored by a national higher education organization or had been carried out by a well-known and highly respected educator. In the absence of such factors, it would have made more sense and involved considerably less effort to carry out the entire survey through a direct mailing.

The addition of methods such as two-way video, interactive videodisc, computer simulations, and other methods in fairly common use in the provision of DE to the survey, as well as the provision of a better definition for audiographics, would have improved the survey. A focus on differences in specific media/method preferences across departments/colleges/divisions and academic ranks, like a larger sample, would have been a valuable addition to the literature, but would have added significantly to the length of this

study, which was mainly intended to answer some of the general questions about public higher education faculty attitudes toward DE.

Recommendations

Implications of Findings for Current and Future Practice

1. Colleges and universities that wish to expand the use of distance education will find association with video-based educational consortia, such as the National Technological University and the Annenberg/CPB Foundation, useful in obtaining the support of faculty for such efforts. Giving a high profile to video- and computer-based DE methods employed by the institution, and associating less popular methods of teaching at a distance with the more popular methods through promotion of the concept of distance education and multimedia approaches to teaching and learning, may help lessen faculty resistance to the introduction of these nontraditional teaching methods.

2. Proponents of DE would do well to cite potential benefits of DE recognized by respondents, such as increased access to higher education and cost-effectiveness, but should also be ready to address commonly expressed concerns about additional workloads, inadequate budgets and financial rewards, peer pressure, distrust of administrators, and the valuing of research over teaching.

3. Most full-time regular public higher education faculty are probably relatively inexperienced in and unfamiliar with distance education, and should be approached in a manner that respects their roles as relatively autonomous professionals. There are considerable variations in public higher education faculty preferences for distance education based on proximity of academic setting and on preferences for media, making the ideal approach to any faculty group or individual faculty member an individual one based on knowledge of these preferences. Patience and persistence will be necessary in introducing DE into many academic settings in higher education.

Recommendations for Additional Research.

1. It is strongly recommended that a national survey of the attitudes of U. S. higher education faculty, both public and private, in all institutional classifications and geographic areas, and by discipline and academic rank, be undertaken at the earliest possible opportunity. It is further recommended that this study be carried out under the auspices of a body likely to be perceived by college and university faculty as impartial, such as a national higher education association, rather than through an individual institution of higher education or a distance-education-related consortia.

2. The survey instrument used in this study should be revised to incorporate more DE media, and some questions should be clarified before use in such a large-scale national study. Closed-answer items need to be developed, based on the results of the content analysis in this survey, which can be used in obtaining the rationales of respondents for their attitudes toward distance education in a large-scale survey, where content analysis would be impractical.

3. Large-scale studies of the attitudes of administrators, staff, and students toward DE, in public and private higher education as well as in K-12 education, are also needed, as are smaller-scale studies of attitudes in individual institutions, including additional studies of the attitudes of those involved in distance education programs and studies contrasting the attitudes of faculty in different departments or disciplines. Survey instruments such as the one used in this study could be adapted for use in these kinds of studies.

4. Distance education research is sorely needed in many related areas as well. Besides attitudinal surveys, repeated quantitative and qualitative studies are needed of the effectiveness of different DE media and methods in different academic settings -- not only studies of cognitive effectiveness, but studies of affective and psychomotor learning, commonly perceived to be a weak point of distance education methods, and of methods of overcoming barriers to effective interaction at a distance.

Performing well-designed and executed research on the effectiveness of particular media or methods and/or particular learning or teaching styles in particular distance higher education settings, and publishing the results, will make possible later reviews and meta-analyses that will help to establish the effectiveness of many forms of DE, leading to greater credibility for these methods, and wider adoption of DE in higher education.

BIBLIOGRAPHY

Ainsworth, D. (1988). Educational television revisited: The Governors State University teleclass experience. Journal of Educational Television, 14 (1), 73-78.

Alreck, P. L., & Settle, R. B. (1985). The survey research handbook. Homewood, IL: Irwin.

Baldridge, J.V., Curtis, D.V., Ecker, G., & Riley, G.L. (1978). Policy making and effective leadership. San Francisco: Jossey-Bass.

Bankirer, M. W. (1987). Faculty attitudes toward telecommunications for delivery of distance education. (Doctoral dissertation, University of Wyoming). Dissertation Abstracts International, 49, 1123A.

Barron, D. (1990). Perceptions of faculty and administrative staff in American Library Association accredited programs toward part time and distance students in library and information science education. Manuscript submitted for publication.

Barron, D. (1987). The use of and perceived barriers to the use of telecommunications technology. Journal of Library and Information Science, 27 (11), 288-294.

Boyer, E.L. (1987). College: The undergraduate experience in America. New York: Harper & Row.

Brew, A. (1982). The process of innovation in university teaching. British Journal of Educational Technology, 13 (2), 153-162.

Bunting, L. D. (1989). First step in the feasibility of interactive satellite communication between the member institutions of the League for Innovation in the Community College. (Doctoral Dissertation, Northern Arizona University, 1989). Dissertation Abstracts International, 51, 61A.

Campbell-Thrane, L. (Ed.). (1984). Panel discussion. Comments of V. Von Pittman. Correspondence study moves to the year 2000 (p. 84). Columbus, OH: National Center for Research in Vocational Education.

Carnegie Foundation for the Advancement of Teaching. (1987, July 8). Carnegie Foundation's classifications of more than 3,300 institutions of higher education. Chronicle of Higher Education, 33 (43), 22-30.

_____. (1989). The condition of the professoriate: Attitudes and trends, 1989. Princeton NJ: The Foundation.

Clark, B. R. (1987). Conclusions. In B. R. Clark (Ed.), The academic profession (pp. 371-399). Berkeley: University of California Press.

Clark, D. L., & Guba, E. G. (1965). A re-examination of a test of the research and development model of change. Educational Administration Quarterly, 8 (3), 92-103.

Clark, R., Soliman, M. H., & Sungaila, H. M. (1984). Staff perceptions of external versus internal teaching and staff development. Distance Education, 5 (1), 84-90.

Clinton, A. (1973). A study of the attributes of educational innovations as factors in diffusion. (Doctoral Dissertation, University of Toronto). Dissertation Abstracts International, 34 , 1016A.

Damanpour, F. (1988). Innovation type, radicalness, and the adoption process. Communication Research, 15 (5), 545-67.

Derr, D. (1991). Strategies for overcoming barriers to the use of contemporary instructional technologies in the Minnesota technical college system. (Doctoral Dissertation, University of Minnesota, 1991). Dissertation Abstracts International, 52, 1725A.

Dillon, C. (1989). Faculty rewards and instructional telecommunications. American Journal of Distance Education, 3 (2), 35-43.

Downs, G. W., & Mohr, L. B. (1976). Conceptual issues in the study of innovation. Administration Science Quarterly, 21 , 700-714.

Dubin, R., & Hedley, R. A. (1969). The medium may be related to the message: College instruction by TV. Eugene: University of Oregon.

Dykes, M. D. (1978). Organizational and individual influences on faculty participation in the implementation of a university innovation. (Doctoral Dissertation, University of Michigan, 1978). Dissertation Abstracts International, 39, 695A.

Elliot, J. G. (1968). Farmers' perceptions of innovations as related to self-concept and adoption. (Doctoral Dissertation, Michigan State University). Dissertation Abstracts International, 30, 2615A.

Evans, R. I. (1982). Resistance to innovations in information technology in higher education: A social psychological perspective. In B. Sheehan (Ed.), Information technology -- innovations and applications: New directions for institutional research (pp. 89-103), No. 35. San Francisco: Jossey-Bass.

Evans, R. I., & Leppman, P. (1968). Resistance to innovation in higher education: A social psychological exploration focused on TV and the establishment. San Francisco: Jossey-Bass.

Feasley, C. E. (1984). Distance education. In Encyclopedia of education, (Vol. III, pp. 450-458). New York: MacMillan Publishing Co.

Finkelstein, M.J. (1984). The American academic profession. Columbus, OH: Ohio State University.

Floyd, C. E. (1985). Faculty participation in decision-making: Necessity or luxury? ASHE-ERIC Higher Education Report, No. 8. Washington, DC: Association for the Study of Higher Education/Educational Resource Information Clearinghouse.

Gayeski, D. M. (1989, February). Why information technologies fail. Educational Technology, pp. 9-17.

Ging, T. J. (1986). Diffusion of instructional television in higher education: A study of the Annenberg/CPB Project. (Doctoral Dissertation, University of Michigan). Dissertation Abstracts International, 47, 800A.

Granger, D. (1990). Open universities: Closing the distances to learning. Change, 22 (4), 45-50.

Gunawardena, C. N. (1988). Using communications technologies for distance education: Report on current practices in the United States. Albuquerque, NM: University of New Mexico. (ERIC Document Reproduction Service No. ED 327 147)

Haenni, E. J. (1982). Attitudinal study of graduate deans regarding external graduate degrees. (Doctoral Dissertation, Southern Illinois University at Carbondale, 1981). Dissertation Abstracts International, 42, 4251A.

Hahn, C. L. (1974). Relationships between potential adopters' perceptions of social studies innovations and their adoptions of these innovations in Indiana, Ohio, Georgia and Florida. (Doctoral Dissertation, Indiana University at Bloomington). Dissertation Abstracts International, 35 (9), 5679A.

Hall, G. E. (1986, April 16-20). Deriving teaching skills from studies of the implementation of innovations in education. Paper presented at the Annual Meeting of the American Educational Research Association (70th, San Francisco, CA). Austin, TX: Research and Development Center for Teacher Education, University of Texas at Austin. (ERIC Document Reproduction Service No. ED 271 461)

Hall, J.W. (1991). Access through innovation. New York: National University Continuing Education Association/American Council on Education/MacMillan.

_____. (1976). The faculty and the future. Alternative Higher Education, 1 (2), 99-110.

Hartnett, R. T., Clark, M. J., Feldmesser, R. A., Gieber, M. L., & Soss, N. M. (1974). The British Open University in the United States. Princeton, NJ: Educational Testing Service.

Havelock, R. G. (1969). Planning for innovation through dissemination and utilization of knowledge. Ann Arbor: University of Michigan.

Hefferlin, J. B. (1969). Dynamics of education reform. San Francisco: Jossey-Bass.

Hendrick, L. C. (1986). Knowledge about and attitude toward instructional television: A survey of the faculty and the administrators in the Los Rios Community College District. (Doctoral Dissertation, University of San Francisco, 1985). Dissertation Abstracts International, 47, 63A.

Henerson, M. E., Morris, L. L., & Fitz-Gibbon, C. T. (1987). How to measure attitudes. Newbury Park, CA: SAGE Publications.

The HEP 1991 higher education directory. (1991). Falls Church, VA: Higher Education Publications.

Holloway, R. E. (1977). Perceptions of an innovation: Syracuse University Project Advance. (Doctoral Dissertation, Syracuse University). Dissertation Abstracts International, 39 (2), 572A.

Hord, S. M. (1981, February). Understanding the change process: A primer for teacher educators. Austin, TX: The University of Texas. Paper presented at the Nazarene Association of College Teacher Educators (Detroit, MI). (ERIC Document Reproduction Service No. ED 223 558)

Hsiao, J. (1990). An analytical study of the National Open University in Taiwan. (Doctoral Dissertation, Indiana University). Dissertation Abstracts International, 51, 3600A.

Huffington, D., & Others. (1990). Independent study program profiles 1988-1989. Final report. Washington, DC: National University Continuing Education Association, Independent Study Division. (ERIC Document Reproduction Service No. ED 317 744)

Ittelson, J. C. (1978). Factors influencing the utilization of instructional media by faculty. (Doctoral Dissertation, Northwestern University). American Doctoral Dissertations, 1978.

Johnson, L. G. (1978). Receptivity and resistance: Faculty response to the external graduate degree at the University of Michigan. (Doctoral dissertation, University of Michigan, 1977). Dissertation Abstracts International, 39, 702A.

Johnson, L. G. (1984). Faculty receptivity to an innovation: A study of attitudes toward external degree programs. Journal of Higher Education, 55 (4), 481-499.

Katz, E. (1961). The social itinerary of technical change: Two studies on the diffusion of innovation. Human Organization, 20, 70-82.

Katz, E., & Levin, M. L. (1959). Traditions of research on the diffusion of innovation. Paper presented at the Annual Meeting of the American Sociological Association, Chicago, IL.

Kaye, A. (1988). Distance education: The state of the art. Prospects, 18 (1), 43-54.

Kazlow, C. (1977). Faculty receptivity to organizational change: A test of two explanations of resistance to innovation in higher education. Journal of Research and Development in Education, 10, 87-98.

Kember, D., & Mezger, R. (1990). The instructional designer as a staff developer: A course team approach consistent with a concern-based adoption model. Distance Education, 11 (1), 50-70.

Kintsfather, D. (1977). Administrative factors and faculty use of instructional television in higher education. (Doctoral Dissertation, University of Mississippi, 1977). Dissertation Abstracts International, 38, 3978A.

Kivlin, J. E. (1960). Characteristics of farm practices associated with rate of adoption. (Doctoral Dissertation, Pennsylvania State University, 1960). Dissertation Abstracts International, 21, 1679A.

Kozma, R. B. (1985). A grounded theory of instructional innovation in higher education. Journal of Higher Education, 56 (3), 300-319.

Ladd, E.C. (1979). The work experience of American college professors: Some data and an argument. Current Issues in Higher Education--1979. Washington, DC: American Association for Higher Education.

Levine, A. (1978). The life and death of innovation in higher education. Buffalo, NY: Department of Higher Education Studies, State University of New York.

Levine, A. (1980). Why innovation fails. Albany, NY: State University of New York.

Lewis, R. J. (1983). Meeting learners' needs through telecommunications. Washington, DC: American Association for Higher Education. (ERIC Document Reproduction Service No. ED 227 731)

Lewis, R. J. (1985). Faculty perspectives on the role of information technologies in academic instruction. Washington, DC: Corporation for Public Broadcasting. (ERIC Document Reproduction Service No. ED 274 343)

_____ & Markwood, R. (1985). Instructional applications of information technologies: A survey of higher education in the West. Boulder, CO: Western Interstate Commission for Higher Education. (ERIC Document Reproduction Service No. ED 270 094)

Lindquist, J. (1974). Political linkage: The academic-innovation process. Journal of Higher Education, 45 (5), 323-343.

Mauremeyer, C. K. (1988). Writing-across-the-curriculum at one community college: A case study of the innovation-adoption process. (Doctoral dissertation, Rutgers the State University of New Jersey, 1988). Dissertation Abstracts International 49, 2905A.

Mayhew, L.B. (1969). Colleges today and tomorrow. San Francisco: Jossey-Bass.

Medsker, L., & Associates. (1975). Extending opportunities for a college degree. Berkeley: Center for Research and Development, University of California.

Millett, J.D. (1962). The academic community. New York: McGraw-Hill.

Millett, J. D. (1980). Management, governance and leadership. New York: AMACOM.

Mohr, L. B. (1978). Process theory and variance theory in innovation research. Institute of Public Policy Studies Discussion Paper No. 115. Ann Arbor, MI: University of Michigan.

National Center for Education Statistics. (1990). Institutional policies and practices regarding faculty in higher education. Contractor Report, 1988 national survey of postsecondary faculty. Washington, DC: U. S. Department of Education, Office of Educational Research and Improvement. NCES 90-333.

_____. (1991a). Digest of education statistics. Washington, DC: U. S. Department of Education, Office of Educational Research and Improvement. NCES 91-697.

_____. (1991b). Profiles of faculty in higher education institutions, 1988. Contractor Report, 1988 national survey of postsecondary faculty. Washington, DC: U. S. Department of Education, Office of Educational Research and Improvement. NCES 91-389.

National Faculty Directory. (1991). (22nd ed.) Detroit, MI: Gale Research.

Nolan, M. F., Anderson, L. A., & Mowrer, J. L. (1977). Faculty attitudes toward a nontraditional studies program. Alternative Higher Education 2, (1), 17-24.

Paul, D. A. (1977). Change processes at the elementary, secondary and postsecondary levels of education. In N. Nash & J. Culbertson (Eds.), Linking processes in educational improvement: Concepts and applications (pp. 7-73). Columbus, OH: University Council for Educational Administration.

PBS Adult Learning Service. (1990). New opportunities in distance learning. Alexandria, VA: PBS Adult Learning Service.

Pelz, D. C., & Munson, F. C. (1982). Originality level and the innovative process in organizations. Human Systems Management, 3, 173-187.

Perry, W. (1986). Distance education, trends worldwide. In G. Van Enckevort, K. Harry, P. Morin, & H. G. Schutze (Eds.), Distance higher education and the adult learner (pp. 15-21). Heerlen, Netherlands: Dutch Open University.

Peterson's Guides. (1992). Peterson's guide to two-year colleges. (22nd ed.) Princeton, NJ: Peterson's Guides.

Rand Corporation. (1955). A million random digits. Glencoe, IL: Free Press..

Riccobono, J. A. (1986a). Instructional technology in higher education. Washington, DC: Corporation for Public Broadcasting. (ERIC Document Reproduction Service No. ED 278 369)

_____. (1986b). Status of instructional technology in higher education. Washington, DC: Corporation for Public Broadcasting. (ERIC Document Reproduction Service No. ED 274 302)

Rockhill, K. (1983). Academic excellence and public service. New Brunswick, NJ: Transaction Books.

Rogers, E. M. (1962). Diffusion of innovation (1st ed.). Glencoe, IL: Free Press.

Rogers, E. M. (1983). Diffusion of innovation (3rd ed.). Glencoe, IL: Free Press.

_____, & Shoemaker, F. (1971). Communication of innovations: A cross-cultural approach. New York: Free Press.

Rothman, J. (1974). Planning and organizing for social change: Action principles from social science research. New York: Columbia University Press.

Sacken, D. (1990). Taking teaching seriously. Journal of Higher Education, 61 (5), 548-564.

Scriven, B. (1986). Staff attitudes to external studies. Media in Education and Development, 19 (4), 178-183.

Smith, C. B., & Ingersoll, G. M. (1984). Audiovisual materials in U. S. schools: A national survey on availability and use. Educational Technology, 24 (9), 36-38.

Stetson, K. W. (1979). University without walls: A comparison of student, faculty, and staff perceptions at selected institutions. Chicago: Interversitas. (ERIC Document Reproduction Service No. ED 263 952)

Stinehart, K. A. (1987). Factors affecting faculty attitudes toward distance teaching. (Doctoral Dissertation, Iowa State University, 1987). Dissertation Abstracts International, 47, 3A.

Trow, M. (1977). Departments as contexts for teaching and learning. In D. E. McHenry & Associates, Academic departments (pp. 12-33). San Francisco: Jossey-Bass.

Tucker, A., & Bryan, R. A. (1989). The academic dean. New York: American Council on Education/MacMillan.

Van de Ven, A. H., & Rogers, E. M. (1988). Innovations and organizations: Critical perspectives. Communication Research, 15 (5), 632-651.

Verduin, J. R., Jr., & Clark, T. A. (1991). Distance education: The foundations of effective practice. San Francisco: Jossey-Bass.

Waugh, R. F., & Punch, K. F. (1987). Teacher receptivity to systemwide change in the implementation stage. Review of Educational Research, 57 (3), 237-254.

Wedemeyer, C. A. (1983). Learning at the back door. Madison: University of Wisconsin Press.

Young, K. (1984). Correspondence education: From the back of the bus to the driver's seat. In L. Campbell-Thrane (Ed.), Correspondence study moves to the year 2000 (pp. 1-6). Columbus, OH: National Center for Research in Vocational Education.

Young, R. E. (1976). The effect of five factors on university faculty members' participation in instructional improvement. (Doctoral Dissertation, Michigan State University, 1976). Dissertation Abstracts International, 37, 7574A.

Zigerell, J. (1984). Distance education: An information age approach to adult education. Columbus, OH: ERIC Clearinghouse on Adult, Career and Vocational Education.

Zvacek, S.M. (1989). Distance education in the teacher education program of Zimbabwe. (Doctoral Dissertation, Iowa State University, 1989). Dissertation Abstracts International, 51, 1108A.

APPENDICES

Appendix A

RESEARCH QUESTIONS AND THEIR CORRESPONDING SURVEY QUESTIONS

Appendix A

RESEARCH QUESTIONS AND THEIR CORRESPONDING SURVEY QUESTIONS

In the following section, the questions asked in the survey are paired with the research questions they were designed to answer.

Key to Research Questions

RQ1. How receptive are higher education faculty in the United States to the teaching of college-credit courses by distance education methods?

RQ2. How are the professional characteristics of higher education faculty related to their receptivity to college-credit distance education?

RQ3. How does the receptivity of higher education faculty to college-credit distance education vary in relation to their previous use of distance education in instruction, their previous use of instructional media in instruction, and their prior knowledge of distance education?

RQ4. Does the receptivity of higher education in the United States to college-credit distance education vary significantly with regard to the kinds of instructional methods that might be used in teaching at a distance?

RQ5. How do higher education faculty rationalize (1) their own perceived receptivity or nonreceptivity to the concept of distance education, (2) their perceptions of whether distance education should or should not be used at their own institution, and (3) their perceptions of the adequacy of rewards for faculty who participate in distance education at their university?

Four-Year Survey Instrument with Survey and Research Questions Matched

Survey Questions	*Corresponding Research Questions*
1. What is your academic position? [Department chairperson, associate or full professor, assistant professor, other]	RQ2
2. What is the name of your academic department [or division]? [Chemistry, Marketing, Political Science, other]	RQ2
3. Years in current position: [Less than 1 year, 1 to 9 years, ten or more years]	RQ2
4. Age [25-34, 35-44, 45-54, 55-64, 65 or older]	RQ2
5. Gender [Female, male]	RQ2
6. Which of these faculty roles do you prefer? [Teaching, research, service, no one preference]	RQ2
7. How much direct involvement have you had in the use of instructional media (besides the blackboard and overhead projector) in college teaching? [A great deal ... none]	RQ3
8. How familiar are you with **any** of the following three terms? **"distance education"** **"distance learning"** **"teaching at a distance"** [Very familiar, somewhat familiar, not familiar at all]	RQ3

Survey Questions	*Corresponding Research Questions*
Survey questions 9-20 Please indicate your attitude on a scale of 1 to 7 toward each of the following items, where 7 = a very positive attitude, and 1 = a very negative attitude. If you aren't sure or have no opinion, mark the "Don't Know" box at the right [8].	
9. Distance education as a **general concept** [Very positive attitude...very negative attitude]	RQ1
10. College-credit distance education developed/distributed through **consortial activities in which your institution takes part** [Very positive attitude...very negative attitude]	RQ1
11. Use of distance education in college-credit academic programs at your institution [Very positive attitude...very negative attitude]	RQ1
12. The use of distance education in **your program** [Very positive attitude...very negative attitude]	RQ1
13. The use of distance education **by you personally** in your program [Very positive attitude...very negative attitude]	RQ1
14. **Audio Conferencing** (instructional dialogue by telephone) [Very positive attitude...very negative attitude]	RQ4
15. **Video Conferencing** (Live one-way video instruction with two-way audio dialogue) [Very positive attitude...very negative attitude]	RQ4

Survey Questions	*Corresponding Research Questions*
16. **Computer Conferencing** (Real-time instructional dialogue by computer, combined with one-way delivery of electronic messages and text) [Very positive attitude...very negative attitude]	RQ4
17. **Telecourses** (Video programs combined with print media, using one of many TV delivery methods, including videocassette, to carry video content [Very positive attitude...very negative attitude]	RQ4
18. **Correspondence Study** (Study by mail characterized by reliance on print media and mailable courseware such as audio cassette) [Very positive attitude...very negative attitude]	RQ4
19. **Independent Study** (Coursework composed of learning assignments or contracts performed independently) [Very positive attitude...very negative attitude]	RQ4
20. How much direct involvement have you had in the use of distance education methods in college teaching? [A great deal...none]	RQ3
Open-Ended Questions	
[OQ1] Do you like the general concept of distance education? Why or why not?	RQ5
[OQ2] Regardless of whether or not, in your opinion, your institution makes significant use of distance education methods, should it be doing so? Why or why not?	RQ5

Survey Questions	*Corresponding Research Questions*
[OQ3] In your opinion, would faculty who participated in distance education at your institution be adequately rewarded? Why or why not?	RQ5

Appendix B

TWO- AND FOUR-YEAR VERSIONS, SURVEY INSTRUMENT

1. Four-Year Version, Closed-Question Section.... 173
b. Open-Ended Questions: Two Alternating Final Pages 176
c. Alternative First Page for Two-Year Version..... 178

Survey on Alternative Teaching Methods

Directions:

Answer by marking **inside** the most appropriate box like this ☒

If you are **unsure** of the answer, or have no opinion, check the **"Not Sure"** box on the right.

I. Respondent Characteristics

1. What is your academic position?
- ☐ Department chair
- ☐ Tenured professor (not chair)
- ☐ Non-tenured, tenure-track professor

2 What is your academic department's name?
- ☐ Chemistry
- ☐ Marketing
- ☐ Political Science
- ☐ Other (please write title below)

_____

3. Years in current position
- ☐ Less than 1 year
- ☐ 1 to 9 years
- ☐ 10 or more years

4. Age
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or older

5. Gender
- ☐ Female
- ☐ Male

6. Which of these faculty duties do you prefer? (Mark only one)
- ☐ Teaching/advising
- ☐ Research/scholarly pursuits
- ☐ Service activities
- ☐ No preference/no one preference

II. Previous Experience

7. How much direct involvement have you had in the use of instructional media or new methods in college teaching?

A Great Deal **None** **Not Sure**

1 2 3 4 5 6 7

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

III. Familiarity with an Innovation

8. These three terms are often used interchangedly:

"distance education" "distance learning" "teaching at a distance"

How familiar are you with **any or all** of these three terms?
- ☐ Very familiar
- ☐ Somewhat familiar
- ☐ Not familiar at all

PLEASE TURN TO THE NEXT PAGE -->

IV. Defining Distance Education For the purpose of this survey, distance education is defined as:

> "Formal, media-based education in which a majority of instruction occurs while **teacher** and **learner** are **separate**."

V. Distance Education Applications Alone or in combination, the following **delivery methods** are commonly used in the provision of distance education:

AUDIO CONFERENCING (Instructional dialogue by telephone)

VIDEO CONFERENCING (Live one-way video instruction with two-way audio dialogue)

COMPUTER CONFERENCING (instructional dialogue by computer, usually combined with one-way delivery of electronic messages and text)

AUDIOGRAPHICS (Computer conferencing combined with audio conferencing)

TELECOURSES (Video programs combined with print media, using one of many TV delivery methods, including videocassettes, to carry video content)

CORRESPONDENCE STUDY (Study by mail, characterized by heavy use of print media and mailable courseware such as audio cassettes)

VI. Receptivity to Distance Education Please indicate your **attitude** toward each of the following items by marking on a scale of **1** to **7**, where **1** = a very positive attitude, and **7** = a very negative attitude. If you aren't sure or have no opinion, mark the "Not Sure" box on the right.

	Attitude Toward Item Very Positive 1 2 3 4 5 6 7 Very Negative	Not Sure
9. Distance education as a general concept	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
10. Distance education applications developed and distributed through the consortial activities of colleges, universities, and other educational agencies	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
11. The use of distance education in college or university academic programs	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
12. The use of distance education in your program	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
13. The use of distance education by you personally in your program	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐

PLEASE GO TO THE NEXT PAGE -->

VII. Receptivity to Media and Methods in Distance Education Please indicate your **attitude** toward each of the following media/methods when used in college-level instruction by marking on a scale of **1** to **7**, where **1** = a very positive attitude, and **7** = a very negative attitude. If you aren't sure or have no opinion, mark the"Not Sure" box at the right.

Media/Method [Specific application]	**Attitude Toward Item** Very Positive 1 2 3 4 5 6 7 Very Negative	Not Sure
14. **Audio Conferencing** (live instructional dialogue by telephone)	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
15. **Video Conferencing** (live one-way video instruction with two-way audio dialogue)	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
16. **Computer Conferencing** (instructional dialogue by computer, usually combined with one-way delivery of electronic messages and text)	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
17. **Audiographics** (computer conferencing combined with audio conferencing)	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
18. **Telecourses** (video programs combined with print media, using one of many delivery methods, including videocassette, to carry video content)	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
19. **Correspondence study** (study by mail, usually combining print media with mailable courseware)	☐ ☐ ☐ ☐ ☐ ☐ ☐	☐

VIII. Previous Experience (Part II)

20. On a continuum from "a great deal" to "none", how much **direct involvement** have you had in the use of distance education in college teaching?

A Great Deal 1 2 3 4 5 6 7 None	Not Sure
☐ ☐ ☐ ☐ ☐ ☐ ☐	☐

PLEASE TURN TO THE NEXT PAGE -->

Your Views The following questions are intended to give you the opportunity to express your opinion in your own words about several issues related to the use of distance education at your institution. Please answer all of those questions about which you have an opinion. Attach additional sheets if necessary to fully express your views.

Do you like the general concept of "distance education"? Why or why not?

Whether or not (in your own opinion) your institution makes significant use of distance education methods, should it be doing so? Why or Why not?

Your answers to these questions will be kept confidential and will only be used to identify groups of similar people for statistical purposes.

Thank you very much for completing this survey.

Please return it in the enclosed envelope to:

Tom Clark
Department of Educational Administration and Higher Education
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

Your Views The following questions are intended to give you the opportunity to express your opinion in your own words about several issues related to the use of distance education at your institution. Please answer all of those questions about which you have an opinion. Attach additional sheets if necessary to fully express your views.

Do you like the general concept of "distance education"? Why or why not?

In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?

Your answers to these questions will be kept confidential and will only be used to identify groups of similar people for statistical purposes.

Thank you very much for completing this survey.

Please return it in the enclosed envelope to:

Tom Clark
Department of Educational Administration and Higher Education
Southern Illinois University at Carbondale
Carbondale, Illinois 62901

Survey on Alternative Teaching Methods

Directions:

Answer by marking **inside** the most appropriate box like this ☒

If you are **unsure** of the answer, or have no opinion, check the **"Not Sure"** box on the right.

I. Respondent Characteristics

1. What is your academic position?
- ☐ Tenured or tenure-track professor
- ☐ Instructor
- ☐ Department or division chair/dean
- ☐ Other (please write position below)

_____

2 What is your academic department or divsion called? Please write its title below:

_____

3. Years in current position
- ☐ Less than 1 year
- ☐ 1 to 9 years
- ☐ 10 or more years

4. Age
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or older

5. Gender
- ☐ Female
- ☐ Male

6. Which of these faculty duties do you prefer? (Mark only one)
- ☐ Teaching/advising
- ☐ Research/scholarly pursuits
- ☐ Service activities
- ☐ No preference/no one preference

II. Previous Experience

7. How much direct involvement have you had in the use of instructional media or new methods in college teaching?

A Great Deal ... **None** **Not Sure**

1 2 3 4 5 6 7

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

III. Familiarity with an Innovation

8. These three terms are often used interchangedly:

"distance education" "distance learning" "teaching at a distance"

How familiar are you with **any or all** of these three terms?
- ☐ Very familiar
- ☐ Somewhat familiar
- ☐ Not familiar at all

PLEASE TURN TO THE NEXT PAGE -->

Appendix C

FORMS USED IN SURVEY DISTRIBUTION, ADMINISTRATION, AND FOLLOWUP

a. Initial Cover Letter to Assistants to the President Requesting Participation in Coordinator Mailing 180

b. Cover Letter to Persons Appointed as Campus Coordinators for Coordinator Mailing 181

c. Procedure for the Choice of a Sample and Administration of the Survey by Campus Coordinators 183

d. Followup Postcards Used in Both Coordinator and Direct Mailings..... 185

e. Cover Letter to Potential Faculty Respondents Used in Both Coordinator and Direct Mailings 186

Southern Illinois University at Carbondale
Carbondale, Illinois 62901-4606

Department of Educational Administration
and Higher Education
618-536-4434

October 26, 1991

_____
_____
_____
_____

Dear _____,

Your university has been chosen for inclusion in a unique and timely survey of faculty attitudes toward alternative methods of instruction. As coauthor of Distance Education: The Foundations of Effective Practice (Jossey-Bass, March, 1991), and as a doctoral candidate in higher education at Southern Illinois University at Carbondale (SIUC), I am writing to request your assistance in the completion of my related dissertation research.

By facilitating the distribution of this survey to faculty at your university following the brief and simple guidelines on the next page, you can help ensure that an accurate picture is drawn of faculty attitudes toward distance education at major U.S. research universities. A sample copy of the survey is enclosed.

You may decide to administer the survey yourself, or to facilitate the appointment of one of your colleagues, such as an administrator or administrative aide you deem appropriate, to select the sample and distribute the surveys to faculty. Please keep a list of the faculty chosen.

This study has been reviewed and approved by the Carbondale Committee for Research Involving Human Subjects (CCRIHS). Participation is voluntary and completely anonymous. The CCRIHS committee chairperson may be reached by calling (618) 453-4533 or writing the Graduate School, Woody Hall, SIUC, Carbondale, IL 62901.

Please feel free to contact me or my doctoral advisor, Dr. Marybelle Keim, if you have any questions. I will promptly answer messages left on my answering machine at (618) 457-5580, or written inquiries sent to the Department of Educational Administration and Higher Education (EAHE), SIUC, Carbondale IL 62901. Dr. Keim may be contacted at the same address. Participation in this survey is voluntary and completely anonymous.

Thank you for your assistance in this matter,

Marybelle C. Keim

Dr. Marybelle C. Keim
Associate Professor
Department of EAHE
Southern Illinois University
Carbondale, IL 62901

Tom Clark
Doctoral Candidate, Higher Education
Department of EAHE
Southern Illinois University
Carbondale, IL 62901

Southern Illinois University at Carbondale
Carbondale, Illinois 62901-4606

Department of Educational Administration
and Higher Education
618-536-4434

December 10, 1991

_____
_____
_____
_____

Dear _____,

Thank you for agreeing to take part in my Survey on Alternative Teaching Methods. Enclosed you will find the materials necessary to conduct the survey:

* 9 survey forms with cover letters and return envelopes
* 9 first reminder followup postcards
* 9 second reminder followup postcards
* 9 third reminder followup postcards with attached survey forms and return envelopes

Please follow this procedure in mailing materials to potential respondents:

Mailing Procedure

1. Send the **cover letter**, **survey,** and **return** (business reply) **envelope** by Campus Mail to each of the nine faculty.chosen as a potential participant in the survey. Please mail these materials on **Friday, January 10th**, so that faculty will receive them on **Monday, January 13th**, the date of the cover letter.

2. Send the three **followup postcards** to each of the nine faculty chosen:

(a) Send the **first followup postcard**, seven days (1 week) after the survey is initially sent to faculty by Campus Mail;

(b) Send the **second followup postcard**, fourteen days (2 weeks) after the survey is initially sent to faculty;

(c) Send the **third followup postcard**, twenty-one days (3 weeks) after the survey is initially sent to faculty. A new copy of the **survey** and a new **return** (business reply) **envelope** are attached to the **third** postcard.

Please do not at any time ask the nine faculty chosen for the survey whether or not they have returned their survey to me . It is O.K. if they volunteer the information.

It is also O.K. for you to answer any questions they may have. Please feel free to refer any faculty member chosen for the survey to me, Tom Clark, at (618) 457-5580, or to my major advisor, Dr. Marybelle Keim, at (618) 536-4434, if he or she desires further information. Please keep a list of the faculty chosen. Please feel free to contact me or my

Southern Illinois University at Carbondale
Carbondale, Illinois 62901-4606

Department of Educational Administration
and Higher Education
618-536-4434

doctoral advisor, Dr. Marybelle Keim, if you have any questions.

Thank you for your assistance in this matter,

Tom Clark
Doctoral Candidate, Higher Education
Department of EAHE
Southern Illinois University
Carbondale, IL 62901

cc: Dr. Marybelle Keim

PROCEDURE FOR THE CHOICE OF A SAMPLE AND ADMINISTRATION OF THE SURVEY BY CAMPUS COORDINATORS

[NOTE: Random numbers from zero to 20 were chosen for each copy of the **PROCEDURE**, without reference to which university would receive a particular copy. The number chosen for use in random selection on this copy of the PROCEDURE was: 7]

Please follow the following procedure in choosing **one** tenure-track but non-tenured **(assistant)** professor, and **one** tenured **(associate** or **full)** professor from each department*:

1. Obtain a listing of current **tenured** and **tenure-track** professors from the departments of **CHEMISTRY, POLITICAL SCIENCE,** and **MARKETING** on your campus.

2. Count DOWN the roster of assistant **CHEMISTRY** professors to the 7th (seventh) one named. If your reach the bottom of the list, go back to the top and keep counting until you reach the 7th assistant professor.

3. Repeat the same procedure, counting DOWN to the 7th name, with the roster of **tenured** (associate or full) **CHEMISTRY** professors.

4. Enter the names of the **chair** and the **tenured** and **nontenured** faculty members chosen below:

CHEMISTRY FACULTY SAMPLE:

(i) Chair_____ **(ii) Tenured Fac.**_____

(iii) Nontenured Fac. _____

5. **Repeat** this process, choosing the 7th name each time, for Political Science and Marketing faculty, then fill in the names of (i) the departmental **chair**and the **tenured** and **nontenured faculty member** chosen from each department below:

POLITICAL SCIENCE FACULTY SAMPLE:

(i) Chair_____ **(ii) Tenured Fac.**_____

(iii) Nontenured Fac._____

MARKETING FACULTY SAMPLE:

(i) Chair_____ **(ii) Tenured Fac.**_____

(iii) Nontenured Fac._____

7. Send the **enclosed cover letter and survey** by Campus Mail to each of these nine faculty.

6. Send the three enclosed **followup postcards** to each of the nine faculty chosen:

(a) the **first,** seven days (1 week) after the survey was initially sent to them by Campus Mail;

(b) the **second,** fourteen days (2 weeks) after the survey was initially sent to them by Campus Mail;

(c) the **third,** twenty-one days (3 weeks) after the survey was initially sent to them by Campus Mail. A new copy of the **survey** is attached to the **third** postcard.

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* If your university does not have a tenure system or all three departments, see back of this sheet.

Tenure and Rank

If your university does not have a **tenure** system, but does have **ranks** (**assistant**, **associate** and **full professor**), please indicate this by writng **NO TENURE** on the enclosed return postcard. If your university does not have a **tenure** system or **ranks**, please write **NO TENURE OR RANKS** on the enclosed return postcard.

Your university is invited to participate in the survey whether or not it has a **tenure** system or **ranks**.

The distribution of surveys is the same for universities which have rank but not tenure -- in addition to the chair, assistant and associate/full professors not classified as lecturers or visiting professors should be selected in each department using the procedure outlined on the other side of this sheet.

At universities where there is neither tenure nor rank, the survey should be distributed to the chair and to two professors in each department who are not classified as lecturers or visiting professors. The first of these two professors should be chosen from the list of all department faculty (except chair, lecturers, and visiting professors) using the procedure outlined on the preceding page. The second should be chosen from the list of all department faculty, substituting the number **8** (eight) for the number used on the preceding page. In the event that the same professor is chosen again, reverse the direction of counting (bottom up instead of top down, or vice versa) to chose the second professor.

Availability of Departments on Your Campus

If your university does **not** have one or more of the three departments being surveyed -- **Chemistry**, **Political Science**, and **Marketing**, or an equivalent department with a different name, please indicate this by writing **NO CHEMISTRY DEPT., NO POLI. SCI. DEPT.**, and/or **NO MARKETING DEPT.** on the return postcard.

Your university is invited to participate in the survey, whether or not is has all three of the departments being surveyed, through distribution of the survey instrument to faculty in those of the three departments -- Chemistry, Political Science, and Marketing , or their equivalents -- which can be found on your campus.

Dear Colleague,

About a week ago, you received my **Survey on Alternative Teaching Methods**. If you have already completed and returned it, disregard this notice.
If you have not yet completed and returned the survey, please do so today.

Thank You,

Tom Clark, Doc. Candidate
SIUC, Carbondale IL 62901

Dear Colleague,

About three weeks ago, you received my **Survey on Alternative Teaching Methods**. Disregard this notice if you have already completed and returned it.
If you have not yet completed and returned the survey, please complete and return a copy of it today. New copies of the survey and return envelope are enclosed.

Thank You,

Tom Clark, Doc. Candidate
SIUC, Carbondale IL 62901

Dear Colleague,

About two weeks ago, you received my **Survey on Alternative Teaching Methods**. If you have already completed and returned it, disregard this notice.
If you have not yet completed and returned the survey, please do so today.

Thank You,

Tom Clark, Doc. Candidate
SIUC, Carbondale IL 62901

From: _____
_____
_____

Acting for: Tom Clark
Doctoral Candidate
Southern Illinois University

Southern Illinois University at Carbondale
Carbondale, Illinois 62901-4606

Department of Educational Administration
and Higher Education
618-536-4434

Dear Colleague,

You are one of a group of educators at your university chosen for inclusion in a unique and timely survey of faculty attitudes toward alternative methods of instruction.

I am aware of your busy schedule, but by spending 10 to 15 minutes completing this instrument, you can help ensure that my survey results accurately reflect the attitudes of comprehensive university faculty toward **distance education**, or mediated instruction in which teacher and learner are separate during a majority of instructional delivery.

Examples of distance education include telecourses, audio conferencing, video conferencing, correspondence study, and computer conferencing. Distance education has a long history in continuing education and extension, but it is not as commonly used in college-credit courses delivered by regular faculty. Little empirical research has been done on the attitudes of faculty toward distance education.

After completing the questionnaire, please seal it in the enclosed envelope and immediately return the sealed envelope to me. Participation in this survey is completely voluntary, and in no way will you or your university be identified.

This study has been reviewed and approved by the Carbondale Committee for Research Involving Human Subjects (CCRIHS). The CCRIHS committee chairperson may be reached by calling (618) 453-4533 or writing the Graduate School, Woody Hall, SIUC, Carbondale, IL 62901.

Please feel free to contact me or my doctoral advisor, Dr. Marybelle Keim, if you have any questions. I will promptly answer messages left on my answering machine at (618) 457-5580, or written inquiries sent to the Department of Educational Administration and Higher Education, Wham Building, SIUC, Carbondale IL 62901. Dr. Keim may be contacted by mail through the department or by calling (618) 536-4434.

Thank you for completing this survey,

Marybelle C. Keim

Dr. Marybelle C. Keim
Associate Professor
Department of EAHE
Southern Illinois University
Carbondale, IL 62901

Tom Clark

Tom Clark
Doctoral Candidate, Higher Education
Department of EAHE
Southern Illinois University
Carbondale, IL 62901

Appendix D

CONTENT ANALYSIS: CATEGORIZATION OF OPEN-ENDED QUESTIONS

Appendix D

CONTENT ANALYSIS: CATEGORIZATION OF OPEN-ENDED QUESTIONS[1]

OPEN-ENDED QUESTION #1: "Do you like the general concept of distance education? Why or why not?

[53 Yes] 1.3, 1.4, 2.1, 2.2, 3.7, 5.1, 7.2, 7.3, 8.3, 10.3, 11.2, 11.4, 13.4, 14.4, 14.7, 16.6, 17.1, 17.4, 19.4, 22.5, 23.3, 23.4, 24.3, 27.2, 27.7, 28.2, 31.2, 31.3, 32.2, 34.6, 36.3, 39.6, 42.1, 41.1, 42.5, 46.1, 48.1, 48.2, 48.5, 49.2, 50.1, 50.3, 50.4, 51.2, 52.2, 53.4, 53.6, 54.2, 56.5, 57.3, 57.4, 57.7, 58.2

[16 Implicit Yes] 13.6, 16.4, 18.1, 19.6, 20.6, 22.4, 23.5, 27.9, 38.1, 38.3, 38.3, 38.5, 42.6, 56.2, 57.5, 58.5

[40 Yes with Qualifications] 3.9, 5.9, 10.1, 10.5, 13.2, 14.2, 15.1, 18.2, 19.2 , 20.2, 22.7, 24.5, 27.1, 27.4, 27.5, 29.2, 30.5, 30.9, 32.3, 33.4, 35.1, 36.2 39.1, 39.5, 48.8, 40.5, 42.7, 44.2, 44.3, 48.3, 48.6, 49.3, 50.2, 51.1, 51.3, 52.4, 53.2, 53.5, 55.2, 57.1

[109 Total Yes]

[46 No] 3.3, 4.4, 6.2, 6.5, 8.4, 9.2, 10.4, 10.6, 11.7, 12.5, 13.5, 15.4, 16.1, 20.4, 21.2, 21.3, 21.5, 21.6, 22.3, 23.2, 26.4, 27.8, 29.1, 29.4, 30.1, 30.3, 31.1, 31.4, 33.3, 33.6, 34.3, 34.4, 34.5, 37.2, 38.2, 39.4, 40.3, 41.3, 42.2, 42.3, 43.4, 51.4, 52.1, 54.4, 56.4, 57.6

[21 Implicit No] 1.2, 8.5, 9.4, 14.6, 14.8, 16.3, 16.5, 20.1, 23.6, 25.2, 30.4, 34.1, 35.6, 38.4, 40.4, 42.4, 43.1, 44.1, 50.5, 55.1, 58.4

[5 No with Qualifications] 5.4, 9.1, 19.3, 24.2, 30.2

[67 Total No]

[24 Ambivalent] 3.5, 3.6, 8.1, 8.2, 9.3, 10.7, 11.1, 11.5, 19.1, 21.7, 22.6, 30.7, 35.5, 49.1, 42.8, 45.1, 47.2, 48.4, 51.5, 52.3, 52.5, 52.6, 53.1, 58.1 (yea and no --yet considers "terrific idea" if allows new access)

[10 No Direct Answer] 4.3, 4.6, 11.6, 29.3, , 38.6, 48.7, 40.1, 43.2 45.4, 46.2, 54.3

[34 Ambivalent/No Direct Answer]

109 Total 'Yes" Answers (52.2 %)
67 Total 'No" Answers (32.1 %)
34 Total Ambivalent/No Direct Answer (16.3 %)
209 Total Answers to Open-Ended Question #1

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[1] The numbers cited in this Appendix (beginning with '1.3' and '1.4') refer to individual responses to open-ended questions. For the full text of these responses, see Appendix E.

Classification of Additional Comments/Rationales Given in Response to Open-Ended Question #1

Quality Concerns

[81] References to concerns about quality of teacher-student interaction / didn't like lack of interaction/prefer direct face-to-face interaction 1.2, 2.4, 2.5, 3.3, 4.4, 5.9, 6.2, 7.4, 8.1, 8.5, 9.2, 9.4, 10.1, 11.1, 12.4, 12.5, 13.5, 14.4, 14.5, 14.6, 14.8, 15.4, 16.6, 18.2, 19.1, 19.3, 20.1, 20.4 21.3, 21.7, 22.3, 22.7, 23.2, 23.4, 23.6, 24.5, 25.2, 26.2, 26.4, 27.4, 27.8 ,29.4, 30.1, 30.4, 31.1, 31.3, 31.4, 33.3, 33.6, 34.3, 34.5, 35.1, 36.2, 35.5, 35.6, 38.2, 39.1, 39.4, 40.3, 41.3, 42.7, 43.1, 43.4, 45.4, 48.4, 50.5, 51.1, 51.4, 52.3, 52.4, 52.5, 52.6, 53.2, 53.3, 54.4, 55.1, 55.2, 56.4, 57.2, 58.1, 58.2

[4] References to concerns about missing direct contact "cues" 7.4, 10.6, 11.1, 31.3

[8] References to direct face-to-face contact/interaction (in all or most of instruction) as being necessary for effective learning 11.7, 21.5, 22.3, 3.5, 42.2, 45.3, 1.4, 42.1

[12] References to concerns about quality of student-student interaction 2.4, 9.2, 14.4, 14.5, 16.3, 16.5, 19.1, 22.7, 33.6, 43.4, 48.4, 58.1

105 references by 94 respondents (45.0 %) to concerns about some aspect of the lack of face-to face interaction

[8] References to concerns about ensuring comparability to existing programs in quality/ effectiveness 4.1, 19.5, 42.8, 44.1, 45.2, 48.6, 49.3, 53.1

[12] References to concerns about abuses of earning college credit, diploma mills, testing, evaluation of quality, quality control, standards 5.3, 9.2, 13.4, 19.2, 19.5, 22.6, 30.3, 30.7, 32.2, 33.4, 48.6, 49.3

[1] Monitoring student satisfaction very impt 27.2

[1] Ensuring that DE doesn't lead to add'l resource diversion to research 4.4

[1] [Alternative modes not suitable for college credit instruction 3.6

[1] Alternative modes don't fit my teaching style 9.4

[5] Cannot/shouldn't replace classroom study (entirely) 15.1, 24.2, 31.3, 32.3, 51.1

[1] Small classes much more effective 29.2

[1] Some pre-fab courses entertainment not learning oriented 27.7

[12] Should be a secondary fall-back model/used only when necessary/a poor second/not a panacea/acceptable only when necessary 2.5, 6.3, 7.4, 10.7, 14.4, 15.1, 19.3, 39.5, 30.2, 48.8, 49.1, 53.1

43 references by 31 respondents (14.8 %) on negative perceptions to comparability to conventional classroom teaching

[8][Can replace lecture mode/better than face-to-face classroom teaching methods 12.4, 18.2, 27.1, 41.1, 51.2, 51.3, 52.2, 53.6

8 references by 8 respondents (3.8 %) on positive perceptions to comparability to conventional classroom teaching

[8] DE favors instruction in facts, not true education 15.4, 20.4, 21.5, 35.5, 39.1, 44.1, 45.2, 47.2

[2] Areas peripheral to class / contact outside class important in educational process 16.1, 16.3

[2] [Need for socialization of students not met through DE 3.9, 45.4

[1] Attitudes and values are difficult to teach by this method, enthusiasm and humor hard to convey 21.7

Additional Comments/Rationales Given in Response
to Open-Ended Question #1 (Continued)

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[1] Human, affective aspects reduced 27.4
[1] OK for cognitive level but a joke for any higher [affective?] level of learning 53.5
[2] Need to teach interpersonal skills for professions 9.2, 11.7
[12] DE is alienating, cold, depersonalizing, impersonal, dull, mediocre, ineffective 1.2, 4.4, 4.6, 8.5, 9.1, 13.3, 21.2, 29.4, 33.3, 34.1, 34.5, 53.3

29 references by 29 respondents (13.9 %) to concerns about lack of affective/social development

[3] Ensuring access to adequate library resources 2.5, 14.5, 24.5
[1] Need access to libraries, instructors, special programs, counseling/advising, etc. 50.2
[16] Lack of access to adequate labs, studios etc.-- "hands on" aspects 6.3, 8.3, 10.5, 12.5, 16.1, 16.4, 17.1, 19.2, 25.2, 27.1, 30.9, 35.6, 42.1, 51.3 (esp. safety issues), 53.2, 54.4
[1] Ensuring access to computers 24.5
[1] Practical applications not possible 19.2

21 references by 20 respondents (9.6 %) to lack of learner access to resources needed for college study

[29]Alternative modes must be suitable/some alternative modes better than others/limited applicability 2.4, 4.3, 6.3, 8.1, 8.2, 9.3, 10.5, 10.7, 11.5,11.6, 12.4, 20.2, 21.7, 24.2, 24.5, 27.5, 28.2, 30.5, 31.1, 32.3, 35.5, 36.2, 39.1 , 40.4, 42.1, 42.3, 48.3, 58.1, 53.2
[1] Supplemental use may be better if DE is done "mechanically" 40.5
[2] Use as needed and for supplemental use 34.6, 51.1

32 references by 32 respondents (15.3 %) to qualifications on use of distance education methods

[3] Works less well/not suited for use in physical sciences / performance based subjects 15.3, 14.2, 53.2
[1] Concern for safety issues in "hands on" lab work 16.4
[1] What should be taught in Political Science needs direct contact 13.5.
[5] Gave negative assessment of feasibility in respondent's own field 8.2, 16.1, 19.2, 30.9, 41.3

10 references by respondents (4.8 %) on qualifications to the use of DE based on subject matter

[4] Only feasible for better students/certain nontraditional students /students with certian learning styles 3.9, 4.2, 13.4, 44.2, 48.4, 3.9, 6.2
[1] Appropriate for high-level courses for professional in field 32.3
[1] Beyond basic courses students need interaction with professor 35.1
[9] Students must be highly motivated / lack internal motivation / cannot handle responsibility 2.3, 9.1, 13.4, 14.2, 6.2, 43.2, 46.2, 33.3, 56.4
[1] Puts great burden -- responsiblities on student 58.4
[6] (Many or most) Students need personal relationship / direct contact 56.4 50.5, 52.6 18.2, 38.3
[2] Students have too many obligations/ carry too many courses to study by DE 4.2, 27.8

Additional Comments/Rationales Given in Response
to Open-Ended Question #1 (Continued)

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[1] Would further student impression that college should be easy and low-cost 39.4
[4] Cited high dropout 50.3, 51.5, 56.2, 58.1
[1] Part-time working adults frequently perform as well or better than full time students 42.8
34 references by 31 respondents (14.8 %) to qualifications of use of DE based on perceptions of potential students
66 references by 63 respondents (30.1 %) to qualifications of use of DE

273 total references by respondents to quality concerns related to DE

[1] Interest in experimenting with some DE modes 47.1
[2] Further research & exploration needed/worth exploring 16.4, 23.5
[1] Would like to see research on the effectiveness of DE 23.4
[2] Interest in future improvements in technology/interactivity 5.3, 7.4
6 references by 6 respondents (2.9 %) on need for / interest in further research on use of DE

[1] Excellent for inservice of Allied Health -- nursing 13.1
[1] Especially useful for Business 57.3
[1] Part-time working adults frequently perform as well or better than full time students 42.8
3 references by 3 respondents (1.4 %) to positive uses of DE based on perceptions of potential students/subject matter

Access Concerns

[40] References to expanded access to higher education for nontraditional/adult students 1.2, 5.1, 7.2, 7.4, 10.7, 11.2, 11.5, 13.6, 14.7, 17.1, 19.1, 19.2, 19.4, 19.6, 21.7, 22.4, 22.5, 22.6, 22.7, 24.3, 27.7, 27.9, 28.1, 30.7, 31.3, 32.2, 38.1, 39.5, 42.5, 47.2, 48.5, 50.1, 50.3, 50.4, 52.2, 53.1, 57.4, 58.1, 58.2, 58.5
40 references to expanded access to higher education for nontraditional/adult students via DE

[17] References to expanding rural/geographic access to higher education 6.3, 7.3, 10.3, 13.2 , 14.4, 14.5 , 16.4, 22.7, 27.2, 30.2 , 42.8, 46.1, 48.2, 50.4, 52.2, 58.1
17 references to expanding rural/geographic access to higher education via DE

[10] References to expanding temporal access to higher education via time-flexible or convenient study 14.4, 43.2, 47.1, 48.2, 48.4, 50.4, 51.1, 57.5, 57.7, 58.1
10 references to expanding temporal access to higher education via DE

[6] References to expanding homebound/handicapped access to higher education 1.3, 13.2

Additional Comments/Rationales Given in Response
to Open-Ended Question #1 (Continued)

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6 references to expanding homebound/handicapped access to higher education via DE

[1] References to expanding access to higher education for incarcerated 31.3
1 comment on expanding access to higher education to incarcerated populations via DE

74 references by 59 respondents (28.2 %) to one or more aspects of expanding access to higher education

Media Preferences

[3] Prefer videoconferencing as method most similar to face-to-face teaching/ as visual and interactive method 14.7, 28.2, 27.4
[1] Videoconfence courses well received by students 30.9
[6] References to preference for two-way video videoconferencing 16.3, 33.3, 42.6, 43.2, 52.5, 57.1
[2] Likes videoconferencing with two-way audio 15.3, 53.6
[1] Videoconferencing with two-way audio not interactive enough 38.6
13 references to videoconferencing; 6 positive, 1 negative, 6 references to preference for two-way video

[2] Telecourses and correspondence study not as educationally sound /prefer more interactive methods 57.1, 58.2
[1] Students dislike telecourses 21.3
[2] Have had negative experiences teaching telecourses 7.1
[3] Have had positive experiences teaching telecourses 3.7, 52.6, 58.5
[1] Have had positive experiences taking telecourses 58.1
[1] Televised replays of live basic course work well at our university 38.5
[5] Visual/video aspect makes telecourses effective educationally 11.5, 18.2, 22.4, 23.4, 23.5
14 references to telecourses, 4 negative, 10 positive; 5 references to preference for visual

[1] good experience with teleconferencing and audioconfencing 51.1
[1] First-time students inhibited in interaction 18.2
[1] my experience has been with audioconferencing combined with telecourse 51.5
[2] have participated in audioconferencing with homebound students 55.1(negative), 55.2 (positive--long experience)
5 references to audioconferencing, 3 positive, 2 negative

[2] Like correspondence study/ unfamiliar with newer methods 2.1, 52.5
[2] Have studied by correspondence and like it 36.3, 49.2
[1] Like the idea of correspondence study -- in the Third World
[1] like DE if independent study using campus resources rather than corr. study 50.2
[1] personal knowledge and experience cannot be put in print 52.5
[1] Quality control is incredible problem in correspondence study 19.5

Additional Comments/Rationales Given in Response
to Open-Ended Question #1 (Continued)

8 references to correspondence study, 4 positive, 4 negative

[1] high work load if develop computer software 8.5
[1] I use computer to supplement lecture/lab experiences 11.6
[1] I am very interested in computer (conferencing, networking), with working MBA students 40.1

3 references to computer-based study, 2 positive, 1 negative

42 references by 39 respondents (18.7 %) to one or more media used in DE, 25 positive, 12 negative

Benefits and Barriers

[14] DE is cost effective/efficient 3.8, 7.3, 16.4, 19.1, 20.6, 27.2, 28.1, 35.5, 38.1, 39.6, 47.1, 50.1, 52.3, 57.7

14 references that DE is cost effective/efficient

[6] DE can be used to provide a broad understanding of the field/general ed./most basic courses 11.1, 17.1, 27.5, 30.9, 35.1, 38.5
[4] Student can be exposed to experts/specialists in field 11.1, 18.1, 40.5, 48.1
[3] Reduce (need for) facilities/relieve on-campus overcrowding 5.1, 20.6, 52.3
[1] Will increase opportunity for research/testing ideas 17.4
[2] Reduced faculty travel / more time for paperwork 19.4, 48.5
[4] A means to add variety/flexibility to curricula / innovation rubs off on other programs 11.2, 27.9, 36.3, 38.3
[1] May be used to enhance teaching and upgrade skills & knowledge of faculty 36.3
[1] Might save small K-12 schools 31.2
[1] bring diversity and life to the classroom 38.3
[1] Facilitates group study at alternative sites 43.2

24 other references to anticipated benefits of DE

40 references by 35 respondents (16.7 %) to one or more anticipated benefits of DE use

[2] Funding for DE is/would be inadequate 2.2, 27.2
[2] High cost of interactivity needed for quality instruction/seems inefficient in terms of numbers 14.8, 42.6
[2] Just used to increase revenues / raise faculty productivity w/o raising costs 9.2, 39.4
[3] Not a proper response to budget cutbacks 21.7, 24.2, 29.1

[1] Lack of convenient access to hardware
[2] Lack of high quality software materials in my academic area 45.1(video), 52.5 (video)
[2] Would lead to unnecessary research / divert resources from teaching 4.4, 37.2

[2] Lack of sufficient incentives or rewards 8.4, 16.5

Additional Comments/Rationales Given in Response
to Open-Ended Question #1 (Continued)

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[3] Carries negative image with most faculty/hassle for faculty/faculty reluctant to participate. 11.4, 16.5, 30.1
[3] Teachers will be replaced with technology /technology becomes master not servant of instruction 10.4, 38.2, 42.4,
[1] Designed by external change agents innovating for innovations sake 53.3

[1] Lack of training/competence for fac. 4.1
[2] Too much preparation time / workload too high 8.5, 22.5
[1] Often not easy & convenient so professors underutilize 38.3
[4] Inadequate on-campus tech assistance with hardware/software problemss 4.1, 6.5, 29.1, 55.2

[1] The legal and fin.comps of recording/copying software materials/teachers not paid for reuse 52.5

[2] Concerns about previous innovation failures/negative experiences of others 10.1, 44.3
[1] Will be overused and underuseful, like previous innovations 48.6
[3] Concerns about previous innovation failures/own program/personally 13.3, 16.6, 37.2

[2] Problems in teaching students with a wide variety of learning abilities & learning styles by DE 17.4, 20.6
[3] DE Engages students in less active modes of learning 2.4, 7.1, 16.1

41 references by 39 respondents (18.7 %) to obstacles or barriers to successful DE

OPEN-ENDED QUESTION #2: "In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?

[40 Yes] 2.3, 2.5, 5.2, 8.3, 10.2, 11.6, 15.3, 19.3, 19.4, 20.2, 21.3, 27.4, 29.2, 30.2, 30.3, 30.8, 31.1, 35.2, 35.3, 38.3, 41.1, 41.3 , 45.1, 45.2, 47.1, 51.2, 52.2, 52.3, 52.4, 52.6, 53.2, 53.4, 57.1, 57.3, 57.6, 58.1, 58.3, 58.4, 58.5, 58.6

[4 Implicit Yes] 11.4, 14.6, 38.3, 47.2

[11Yes with Qualifications] 7.3, 12.4, 13.6,14.2, 15.1, 19.5, 29.2, 34.6, 41.3, 48.2, 53.3

[55 Total Yes]

[32 No] 1.3, 4.1, 5.1, 8.2, 8.4, 8.5, 11.2, 12.2, 12.5, 13.1, 13.2, 14.8, 16.1, 17.1, 18.2, 27.8, 29.1, 31.3, 33.3, 33.4, 34.1, 34.3, 34.4, 34.5, 35.5, 39.5, 39.6, 44.2, 50.2, 50.3, 55.1, 55.2

[6 Implicit No] 8.1, 10.8, 39.1, 41.4, 52.5, 57.4

[9 No with Qualifications] 5.3,7.3, 39.4, 20.1, 23.4, 29.4, 30.7, 38.4, 50.4

[47 Total No]

[4 Ambivalent] 4.2, 4.4, 13.4, 13.7,

[22 No Direct Answer] 1.2, 4.4, 10.6, 10.1, 11.7, 14.5, 19.2, 19.6, 21.5, 21.6, 21.7, 27.7, 27.9, 29.3, 30.5, 31.4, 44.3, 48.1, 52.1, 53.6, 57.2, 57.5

[26 Total Ambivalent or No Direct Answer]

55 Total 'Yes' Answers
45 Total 'No'+Answers
22 Total Ambivalent/No Direct Answer
122 Total Answers to Open-Ended Question #2

Classification of Additional Comments/Rationales Given in Response to Open-Ended Question #2

[16] Yes, would be rewarded same as other (normal) teaching responsibilities 5.9, 10.2, 11.4, 14.1, 14.2, 14.6, 21.3, 23.5, 27.4, 30.2, 30.8, 35.3, 45.1, 47.1, 47.2, 52.6, 58.1
[1] Yes --Special rewards only if major initiative.38.3
[1] Would receive adequate promotion & tenure consideration
[1] Would receive adequate compensation (from dept./institution) 2.5, 5.9
[1] Yes--union pay rate about equal 52.2
[1] Yes-compensated more than fair for telecourse compared with traditional 58.4
[1] Do receive assistance money based on external enrollment for student workers/travel 1.4

Additional Comments/Rationales Given in Response
to Open-Ended Question #2 (Continued)

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[1] Rewards balance out - telecourses less preparation, course development more preparation 11.6
[1] Paid in addition to regular salary at rates varying by rank 31.1
[1] Innovative teaching, community service taken into account in merit increases 19.4
[1] Some would as long as it were tied to research 40.1
[1] Given time, resources to make videotapes, little variation from ordinary lecture, so no additional compensation warranted 23.5
[1] Those who used DE here are generally satisfied with rewards & compensation 58.6
[1] Yes -- professional pride (as reward) 51.2

30 references by 29 respondents (23.4 %) to rationales for why faculty would be adequately rewarded for participation in DE

[1] Leaders commited to program 1.3 (our Dean is commited to concept)
[1] Faculty/innovators at my university would be strongly rewarded 15.3
[1] Yes --we are innovative I've been involved 20.2
[1] Somewhat, as a form of teaching innovation 48.2.

4 references by 4 respondents (3.4 %) to potential/actual adminstrative support for DE

[2] Lack of trust toward administrators /institution in terms of rewards, support 4.2, 5.1, 30.7
[4] Administration would see as "something for nothing"/way to save money/inexp way to teach 5.1, 29.1, 12.5 13.7
[1] Would take money from the academic program and pay more for "showy" activities 19.3
[1]Would be used to cut humanities/social science costs to pay for professional schools 19.5
[1] Rewards would be bribery to reduce faculty loads, increase enrollment, and reduce overall university costs 19.5
[2] DE is required (therefore, rewards irrelevant) 10.6, 58.3

11 references by 9 respondents (7.4 %) to distrust of motives of administrators in developing DE

[1] Must be used to live within budgets.29.2
[1] School has allocated reasonable resources.57.3
[6] Institutional funding is/would be inadequate 1.3, 4.2, 4.4, 10.8, 50.4, 55.2

8 references by 8 respondents (6.6 %) to cost/funding/budget, 6 negatively, 2 positively

[1] Other faculty could care less. The people involved in it are selling the program elsewhere for 23.4
[1] Why reward involvement in a bad idea. We don't have it anyway 34.5.
[1] Pay faculty enough, and they'll do anything 21.7
[1] Done by faculty members in search of extra money students are satisfied with easy credit and the faculty with the money 31.1
[1] TV fac more than justly rewarded since they put very little time & effort into doing anything45.2

Additional Comments/Rationales Given in Response
to Open-Ended Question #2 (Continued)

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[1] Adequate compensation for the limited output they provide 53.3
[1] Younger faculty with financial needs; temporary and part-time faculty. Those who "have to" will 1.2

7 references by 7 respondents (5.7 %) to negative personal perceptions of faculty who participate in DE

[1] No -interested in improving the quality of undergraduate education 34.3
[1] This concept is too new for my campus 57.5
[1] Chem professor would be looked down upon by peers 27.1
[1] No, most faculty share my views 34.4
[1] Doubt whether there would be an overwhelming response to DE 27.8
[1] Recognized by Cont Education not their own dept 31.3
[1] Outside the norm 13.2
[1] Politically unwise -- esp in a geographically small state 34.3.

8 references by 5 respondents (4.7 %) to potential/actual negative perceptions of other faculty toward DE participation

[1] Lousy budget no raises 27.8
[1] Would not receive adequate financial compensation 14.8
[1] Paid extra for this "overload" work [negative tone to answer] 31.3
[1] Taped, the teacher gets paid only once. inadequately paid 52.5
[1] There is no financial reward 29.1
[1] No compensation for development 50.3
[1] Treated at adjunct rates 50.3
[1] dumped into exended campus paid at adjunct rate 16.1
[1] Meager compensation for running correspondence courses 38.4
[1] Lack of extra compensation for extra class size 1.4
[1] Extra compensation not sufficient 18.2
[1] FTE/assigned reduced FTE 1.3, 17.1, 50.3
[1] Funding ratios 150-300% of trad inst-generates high FTE's at lower cost 50.2
[1] There is discussion about reduced level of compensation for DE 57.4

14 references by 13 respondents (10.7 %) to inadequate financial rewards for participation in DE

[1] Effort not equalled by credit 8.5
[1] No reward system, travel cut 27.8
[1] Very few are adequately rewarded at our university 41.4
[1] Clear understanding of faculty about rewards is essential 58.6
[1] Lack of rewards leads some faculty to refuse 13.4, 14.2
[1] No way to easily reward 13.1
[1] We are not equipped to reward such activities 34.1
[1] No reward beyond personal gratification 12.2
[1] Would not get personal satisfaction/rapport with students 4.4
[1] To meet external needs for service or training in your field, not compensated - we volunteer 55.1

10 references by 10 respondents (8.2 %) to (nonfinancial) rationales for why faculty would not be adequately rewarded for participation in DE

[8] Research valued over teaching, including DE teaching 8.2, 11.2, 27.1, 27.8, 33.3, 33.4, 35.5, 39.1

Additional Comments/Rationales Given in Response
to Open-Ended Question #2 (Continued)

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[1] Little counts except publications.39.5
[1] Prob not rewarded unless tie in to research and publication 7.3
10 references by 10 respondents (8.2 %) to inadequate rewards for DE participation relative to research and publication

[2] Faculty already overtaxed 5.1, 5.3
[2] No released time to develop new courses, to explore new instructional technologies, or to become familiar with new material or resources 8.1, 53.6
[2] Do so on own time above present workload 8.1, 12.2
[2] More time-consuming/ not time or resource economical, 11.2 14.2
[1] Inadequate time given for development 13.2
[1] Instructional reforms have yielded more work but no more resources 30.7
[1] Time spent (on televideo) enormous - doubt will receive special consideration 27.7
[1] Awful lot of work in preparing video course 57.1
[1] Inadequate resources given high work load 4.1
13 references by 12 respondents (9.8 %) to concerns about workload for faculty participating in DE

[2] Inadequate on-campus tech assistance with hardware/software problems/development 8.1, 13.2
[1] Yes! Currently offer video training 52.3
[1] Lack of training/competence for faculty.8.1
[1] Time required to learn how to use 8.1
5 references by 3 respondents (2.5 %) to concerns about training/development for faculty participating in DE

OPEN-ENDED QUESTION #3 "Whether or not (in your own opinion) your institution makes significant use of distance education methods, should it be doing so? Why or why not?

[30 Should] 2.2, 3.7, 3.9, 7.2, 7.2, 14.4, 14.7, 16.3, 16.4, 22.4, 22.6, 24.2, 24.4, 24, 30.1, 33.6, 35.6, 38.1, 38.5, 43.1, 43.8, 44.2, 48.1, 48.5, 48.7, 49.2, 49.3, 50.1, 51.1, 56.7

[6 Implicit Should] 3.3, 11.5, 13.6, 22.5, 35.1, 51.5

[19 Qualified Should] 3.3, 5.8, 5.4, 10.4, 15.1, 18.1, 19.1, 22.1, 22.7, 28.1, 28.1, 28.2, 43.5, 44.4, 46.2, 46.3, 48.6, 53.1, 56.4

[55 Total Should]

[15 Should Not] 3.8, 5.6, 6.2, 9.2, 9.4, 15.4, 16.2, 21.1, 30.4, 37.2, 38.2, 40.4, 43.2, 43.4, 51.3

[4 Implicit Should Not] 3.6, 25.2, 51.4, 58.2

[19 Total Should Not]

[4 Ambivalent] 3.5, 40.6, 9.3, 49.1

[12 No Direct Answer/Don't Know] 2.1, 6.5, 7.1, 11.6, 16.5, 16.6, 22.3,, 23.6, 26.2, 44.1, 48.2, 56.2

[16 Total Ambivalent or No Direct Aswer/Don't Know]

55 Total Should (64.0 %)
15 Should Not (17.4 %)
16 Total Ambivalent or No Direct Aswer/Don't Know (18.6 %)
86 Total Answers to Open-Ended Question #3

Quality Concerns

[1] Higher education is impersonal now -high tech would make even more impersonal, uninvolving 21.1
[2] student need live professors 3.6, 46.2
[1] largely eliminates interaction 5.6
[1] students and teachers are deprived without direct interaction 43.2
[1] Faculty-student distance already too great 25.2
[1] Need live person to stimulate learning 5.8
[1] Lack of direct interaction- marginal value for upper division courses 10.4.
[1] lab courses with hands on less plausible 49.1

9 references by 9 respondents (10.5 %) to concerns about some aspect of the lack of face-to face interaction

Classification of Additional Comments/Rationales Given in Response to Open-Ended Question #3

[1] Quality of education is not the same 30.4.
[1] Telecourses, correspondence courses noted for their lack of academic rigor 43.2
[1] No -- seen as sub-standard, community college or correspondence school 23.2
[1] DE in degree based instruction is an open question 43.8
[1] A miserable way to run a degree prog-would simply represent "consumerism" run rampant! 19.1
[1] what would keep video stores from renting out video classes and awarding degrees? 38.2

7 references by 7 respondents (8.1 %) to negative perceptions of comparability to conventional classroom teaching

[1] might improve quality of education 35.1
[1] Use to strengthen weak programs 48.5
[1] Research shows the superiority of alternative learning methods.3.9

3 references by 3 respondents (3.5 %) to positive perceptions of comparability to conventional classroom teaching

[1] If you believe in the notion of college, you cannot believe also in DE 38.2
[1] college education is more than classroom experience 30.4.
[1] Does it motivate or alienate students 9.4

3 references by 3 respondents (3.5 %) to concerns about lack of affective/social development

[1] Can be a viable alternative to SOME classroom interactive learning, but not as the main delivery system 46.2
[1] Yes-to supplement current offerings-limited in use & can't replace live instruction 28.1
[1] Only if necessary -should be secondary- off-campus classes preferable 43.3
[1] Yes, if it did not compete with our traditional class instruction 43.5
[1] In specific instances ok. 4.4
[1] DE in degree based instruction is an open question 43.8
[1] A miserable way to run a degree prog-would simply represent "consumerism" run rampant! 19.1

7 references qualifying use of distance education methods

[1] In certain disciplines 46.2
[1] For certain courses 49.1
[1] Yes for certain courses 53.1
[1] As supplement in chemistry 51.4
[1] areas where works, by faculty who can apply it and feel comfortable, if learning and/or performance objectives are met 46.3
[1] For a variety of courses, DE could be a viable option 16.5
[1] Only for highly specialized material 9.1

Additional Comments/Rationales Given in Response
to Open-Ended Question #3 (Continued)

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[1] Yes, in special areas. But again, not for the regular courses 15.1.
[1] May not be appropriate for all types of courses 9.4
[1] Adequate in some areas-science not effective taught this way 3.3
[1] Little use in my area of university 3.6
[1] Not useful in my area -university does with some graduate courses 6.4

9 references qualifying use of DE based on subject matter, including 3 negative assessments of feasibility in their field

[1] Telecourses require self-discipline
[1] For highly motivated students 44.4
[1] Yes for special populations 53.1
[1] Only for highly motivated students 9.1

4 references to qualifications on the use of DE based on perceptions of potential students

22 references by 19 respondents (22.1 %) to qualifications on the use of DE

[1] DE could expand chemistry, biology and pre-med 43.6

1 positive comment on uses of DE based on subject matter

[1] I would like to see it explored 18.1
[1] Universities should experiment & do research on methods before significantly increasing use of DE 22.2

2 references by 2 respondents (2.3 %) to need for / interest in further research on use of DE

Access Concerns

[4] DE expands access for nontraditional students 22.6, 48.6, 51.1, 28.2, 19.1
[8] DE expands access-geographically or to rural areas 2.2, 2.4, 14.4, 16.5, 22.4, 43.6, 16.3, 43.1, 22.7
[1] Home bound students 44.4
[1] People in workplace 56.7
[1] Especially minority students in rural areas 22.7
[1] Access for incarcerated 33.6

16 references by 15 respondents (17.4 %) to one or more aspects of expanding access to higher education via DE

[1] No -- we teach off campus classes to serve surrounding communities 16.2
[1] Other alternatives (e.g., community colleges) available for place bound students 30.4

Additional Comments/Rationales Given in Response
to Open-Ended Question #3 (Continued)

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[1] University should be hiring more teachers & depending less upon video teaching 38.2

3 references by respondents (3.5 %) to one or more reasons not to expand access via DE

[4] Our institution is expanding use of DE /is likely to expand use 22.5, 22.6, 43.6, 48.1, 48.2

5 respondents (5.8 %) mention actual/potential expansion of DE use by their institution

Media Preferences

[1] Preferred method not available (videconferencing) 51.3
[1] We do telconferencing & are developing ITFS delivery system 48.1
2 positive references to videoconferencing

[2] Would like more telecourses 3.7, 13.6
[1] We offer television courses 23.6
[1] Currently have telecourses and are interested in expanding 49.3
[1] We do telecourses 48.1
[1] Televideo in basic course-yes 56.4
[1] My only involvement is when an instructor may be needed for telecourse 56.2
[1] Telecourses at my instution- high dropout- would prefer other methods if must do 58.2
8 references to telecouses, 7 positive, 1 negative

[1] Have computer related courses 49.3
[1] Correspondence courses our chief method is a poor method 40.6
2 references to other DE media, 1 negative, 1 positive

12 references by 11 respondents (12.8 %) on one or more media used in DE, 10 positive, 2 negative

Benefits and Barriers

[1] Training time is generally not available 6.5
[1] Lack of faculty time to develop courses 16.4
[1] Lack of faculty expertise in this area 16.4
[1] Strains traditional instruction by requiring more resources & effort 30.4
[1] DE is not recognized as part of a faculty load outside of continuing ed 43.8
5 references to workload or resource concerns

[1] Faculty may see as administration idea to hire fewer faculty 13.6
[1] Right now there is lots of interest. In the short term there are rewards & encouragement. I'm not certain what will occur in the long term 7.1

Additional Comments/Rationales Given in Response
to Open-Ended Question #3 (Continued)

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[1] Low priority 26.2
[1] Not a top priority at our university ()
4 references to disrust of adminstration/ lack of administrative support

[7] Initial cost is major drawback/cost is barrier 11.5, 16.4, 16.5, 43.1, 43.6, 49.2, 51.3
[1] Funding formula used by the state to calculate FTE is barrier 43.8
8 references by respondents on cost/funding as a potential barrier

16 references by 14 respondents (16.3 %) to obstacles or barriers to successful DE use

[4] Very cost effective/budget cuts require 3.9, 9.4, 30.1, 51.1
[1] Save on capital investment, conserve fuel, etc.
5 references to cost-effectiveness of DE

[1] Distributes expensive instructional resources especially to personnel over a larger audience 48.6
[1] TV courses etc. should be by consortium development to spread cost 40.6
2 references to potential benefits of consortia

[1] Major universities should - would add a lot to prestige 2.1
[1] No university should have a monopoly on DE 24.2
[1] A competitive necessity-university is isolated 24.3
[1] Increases the visibility of the institution & may even attract traditional students 48.6
[1] Would increase enrollment 56.5
[1] helps increase our market 43.5
[3] DE a viable alternative to expanding size of conventional classes/large classes instead of many sections 35.1, 38.1, 38.5
9 references to marketing advantages of DE/expansion of enrollment

[1] People in the workplace are accustomed to distance communcation and expect us to keep up with developments in technology 56.7
[1] New information reaches the audience faster 48.6
[1] Access to better teaching via DE 24.2
3 mention better distribution of knowledge/teaching via DE

19 references by 18 respondents (20.9 %) to potential benefits to the institution of DE use

Appendix E

CONTENT ANALYSIS: FULL TEXT OF ANSWERS TO OPEN-ENDED SURVEY ITEMS

Appendix E

CONTENT ANALYSIS: FULL TEXT OF ANSWERS TO OPEN-ENDED SURVEY ITEMS

OPEN-ENDED QUESTION #1: "Do you like the general concept of distance education? Why or why not?

Answers of Comprehensive University Faculty Respondents

1.2 In my experience and that of some department colleagues, distance education is acceptable in a worst case scenario -- students isolated in mountains or several hours distant from campus. But our direct experience finds distance teaching alienated, stilted, cold and not responsive in a direct way.

1.3 Yes, because it uses technology to reach students that might not be able to attend college in the "traditional" way (i.e., between ages 18-24 and going full-time). Also, with the changing demographics, these methods may provide a way to reach older students, some minorities or low-income students and the disabled.

1.4 I like the general concept, particularly in the rural part of California which is the service area for this university. However, I do not like to see students take their entire education program through distance education, but rather be used during particular semesters or for particular courses (e.g., enable the student to have to come to the university only once or twice a week, or maybe not come for one semester).

2.1 Yes I like it, but I don't have much familiarity with newer methods. Traditional correspondence always made sense to me.

2.2 Yes, we lack the resources to carry the method out in our university.

2.3 I was a science course tutor for the Open University of Great Britain before coming to the USA. It works well for well-motivated students (there are plenty of such students in the UK). So from my experience it can work well.

2.4 For students: disadvantages -- often miss out on interactions with teacher, opportunities to ask questions. Also often miss out on interactions with other students, debates, etc. No opportunity for oral presentations. Techniques are helpful but should be limited in their use.

2.5 This is in my mind a secondary fall-back mode of instruction. To the extent that it is interactive, it is better. Distance education too frequently involves inaccessibility of the student to reference and library material.

3.3 Not very enthusiastic. Primarily due to the lack of feedback on what concepts the students are having difficulty with on an instantaneous basis and ability to adapt and modify presentation to help them.

3.5 It could have some possibilities at the graduate level for some type sources. There is no way that this type of education can replace the instructor/pupil contact with verbal interchange.

3.6 It would be fine in the world of CEU's, continuing education; some company training programs, customer education and in non-academic credit circumstances if it is not over-used.

3.7 Yes. I have taught a telecourse for two years.

3.8 I believe that the changing economics will force us to adopt more cost effective methods.

3.9 This is not for everyone, but many nontraditionals could probably learn better and faster with these methods. Traditional students may require some additional class contact -- they want more socialization. Learning styles should be assessed before putting anyone into these types of courses.

4.1 For it to succeed you need resources and competence to produce quality programs.

4.2 It depends on the general level of academic achievement of our student population. Our population needs direct involvement (face to face) with instructors. Most work part-time and carry too many courses.

4.3 As a supplement only.

4.4 No. Research shows the need for direct personal faculty/student contact. Distance learning will become a tool of further depersonalizing teaching and diverting more resources to research activities.

4.6 Too impersonal for both the professor and the student.

5.1 Sure -- it might help relieve campus overcrowding while at the same time reaching more students.

5.3 There have been abuses of earning college credit, which have made my attitudes negative -- however new technology seems promising.

5.4 No. Although it may be quite possible in some fields, I cannot imagine it working to any significant extent in my field!

5.8 No. I prefer the interaction with students and faculty.

5.9 I'm in favor of distance education in so far as it allows people to learn who would otherwise not be able. I still prefer to interact with students face to face.

6.2 Generally: No. For the independent person who is truly motivated to learn on his/her own: yes. For the usual college student whom I meet: No. My personal teaching method is personal. I need to establish a relationship with my students, this itself being a motivator to learn (at least, this is what many students of mine say).

6.3 1. Laboratory work can't be done by "distance education." 2. Videotapes, audiotapes are best presented as a supplement to class in a traditional setting, with the teacher right there to discuss and answer questions. In sum, distance education can only be a replacement (and a poor one at that) for the real thing. I see the most justification for it in isolated rural settings where appropriate institutions are hard to get to.

6.5 No, generally. Problems with equipment, etc.

7.1 In the telecourses that I've taught, I've been concerned about the passiveness of most students. They listen & take notes; some do satisfactory work on tests. The telephone questions in general are low level. "May I see the transparency again?" is the most common. Lots of students can take a course or a workshop. It takes work for many of them to learn well.

7.2 Yes. Education should be available through many channels.

7.3 Yes -- can be cost effective. Applicable in a large state like _____.

7.4 I am troubled any time the communication link between instructor and students is tenuous. Much of my own classroom presentation is based on "seeing" students' responses to the discussion. Of the methods discussed above, I find video conferencing least troubling. However the "one-way" video is a severe drawback. With further advances in technology, distance learning will increase its potential. It is already an attractive option to many groups who, for whatever reason, cannot attend courses in person. But until communication links are improved, it remains a poor second to face to face instruction.

8.1 An excellent concept when used as additional resources which instructors integrate into their courses, especially when two-way communication and networking is involved. A very negative development when used as a substitute for the classroom experience.

8.2 Difficult in chemistry. An interactive process would work, but a correspondence or video correspondence would be v. difficult b/c students could not ask questions, etc.

8.3 Yes. However, in chemistry, laboratory experience does not seem to fit mode.

8.4 No. We do not recognize any innovative approaches to teaching and/or course development.

8.5 I am skeptical about the relative work load for this kind of education. Rather than higher efficiency, it seems to me that not having all the students together would lead to greater inefficiency, not to mention impersonality. This esp. seems true of 1:1 computer interaction. The work load could be enormous.

9.1 Large class sizes are a barrier to education. This concept only puts more distance between the instructor and the students. It could only work with highly motivated students.

9.2 No. Student-teacher personal interaction is irreplaceable. Student-student interaction is important. Students must learn to develop interpersonal skills for professional environments, and the college classroom facilitates this. I believe distance education is for "diploma mills" only, and that it is utilized to increase tuition revenues.

9.3 Has its use but only as a compliment to in-person [?] instruction.

9.4 I am comfortable with settings where teacher and learner are together. Distance education has no appeal for me. I utilize the Socratic method featuring considerable in-person interaction.

10.1 I suppose I like the general idea, but I've heard nothing but horror stories from colleagues who have participated. It doesn't leave too much room for flexibility and last minute additions/changes.

10.3 Yes. It allows Land Grants to reach the whole state. In a rural state such as ____, people are isolated and need alternative techniques to access education.

10.4 No -- course activities/structure tend to be guided by technological considerations rather than technology being the servant of instruction.

10.5 Distance education is all right for those disciplines where no laboratory work involving special material or instruments such as the sciences.

10.6 I do not, in general, like the concept of distance education. Even a live two-way video conference removes some communication between instructor and students (I teach small, upper level classes). I get more feedback from facial expressions and body language of students than from verbal responses. Students frequently say, 'yes, we understand,' when they do not.

10.7 Yes -- simple distribution advantages to address time & place constraints faced by 'students'. No -- it is too often used (?) as a panacea -- it is one tool but not always the best one; many courses need face to face instruction.

11.1 My main reservation about it would be the lack of personal interaction between instructor and student in a classroom -- subtleties, a look, catching one's eye -- at least those things would be lost. On the plus side -- some ideas could be presented and real experts could be brought in.

11.2 Yes -- it broadens opportunities and the distribution of ideas -- increases communication.

11.4 Yes -- but it carries a very negative image w/ most faculty. Being different is always a big risk in universities.

11.5 Some "d.e." would appear to be better than others (e.g. audio alone doesn't appeal to me) & there are some definite advantages -- it seems that today students learn best by visualization rather than reading thanks to TV and from a university or school perspective a greater number of students can be reached. However I think that direct student-teacher interaction cannot be beat.

11.6 We don't call it that. Also, there is a difference between "DE" as sole or supplementary technique. I use comp. to supplement lecture/lab experiences.

11.7 No. Intangibles like cooperation, leadership, analytical thinking are difficult to learn. Community can not be be built.

12.4 Can replace lecture 100% applicable for case discussion -- evaluating student presentations -- observing students doing math in operations management -- should not use "distance education methods" -- key is how much does presentation change as a function of student input!

12.5 No; personal relationship of student and teacher is important in teaching. Book learning is just one aspect of teaching. Hands on experience with proper supervision is especially important in chemistry labs.

13.1 Excellent for inservice of allied health -- nursing.

13.2 Only for students who are scattered and cannot go to the various sites of instruction. Perhaps also for homebound students. But negatively for real live student interaction.

13.3 Only if budget were the prime factor. ___ used this "option" years ago and its impersonality hurt badly our program.

13.4 I think it is inappropriate for the average college student. Cheating & fraud are easier in such courses. I would reserve the use of them for highly motivated students who have proved themselves in conventional courses.

13.5 No -- what should be taught in political science needs direct contact.

13.6 It will open educational opportunities for more students.

14.2 Distance ed is great for highly motivated students and with a specific subject matter that can be easily measured. It works less well with large numbers of undermotivated students and in subjects that are more qualitative and performance based.

14.4 Most certainly. In today's fast paced society distance learning enables people to make room for education as a result of the convenience offered by distance learning.

14.5 I lean toward the negative. I think the main use for this should be to educate people in remote rural areas who would otherwise have no access to college education. But for those who have a choice, face-to-face interaction, group process & a change to use a real library are far preferable.

14.6 I have not done it but prefer "face to face" teaching.

14.7 Course offerings through Video Conferencing is an excellent method for offering a university education to "non-traditional" re-entry students. I have participated in such courses and am very supportive.

14.8 It is hard enough to convey material face-to-face, one-way communication takes away a critical element in education. Two-way distance education seems inefficient (in terms of numbers).

15.1 Necessary and useful in some cases. I do not see it as a panacea, or taking the place of normal coursework.

15.3 I have participated in a "distance education" experience in which a 3 hr. live broadcast was made to several centers around the state (graduate education for high school teachers). The experience was made meaningful by a mid-hour down-link interaction with instructors at down-link sites. In chemistry (and physics) the need for practical demonstration required a great deal of work by the organizers -- and was helped by down-link interactions. I don't think there is an "easy way" of making distance education in science work.

15.4 No. Face to face personal interaction is part of what I consider education -- distinct from transferring information or skills.

16.1 As a general concept -- no. Especially from disciplinary perspective. Laboratory does not lend itself well. The difference between watching and doing is what keeps us doing. Also, the activities peripheral to 'classroom time' are integral to the educational process.

16.3 #1 Very difficult to work with students outside of class
#2 it should be two-way video & can handle several locations at one
#3 Students should be in a classroom setting so they can help each other.

16.4 DE as an alternative to live performance should be considered when economics and travel make live performances impossible. Being in science, I teach hands-on approaches -- this would be difficult at a distance. I would be leery of safety issues of students in lab (or conducting laboratory) when I am not physically present. DE needs more research and exploration.

16.5 In theory, it sounds fine -- providing education to those who are unable to travel or move is an idea that is consistent with generally accepted American values about education. In my experience, the benefits (to the few who participate-- another problem) rarely outweigh the costs, faculty are reluctant to participate (for many reasons), and, in courses where the topics tend to be less concrete, it is difficult to ensure that the participant students have the benefit of a class discussion.

16.6 1. I like the concept. 2. My experience was mixed. 3. Lack of personal communication.

17.1 Yes. Provides access to gen ed courses. Poor for lab intensive courses.

17.4 Yes. It has application that would allow professors more opportunity to (1) do more research and (2) work more closely with students having special needs.

18.1 It would allow the student to have exposure and interaction with the best experts in the field of study.

18.2 For straight lecturing it is a good approach. However, it tends to inhibit some two-way interactions, especially with students involved for the first time. In a problem solving environment, such as most of my classes, only a video method would be of use. Of course, many students already complain of inadequate contact with faculty and distance education would tend to add to this.

19.1 Depends on your goals -- maximizes access & reducing costs seems to be the greatest advantages. On the other hand, if you want the most effective method of teaching possible, then I believe direct -- interactive (faculty & other students) -- participatory and face to face Socratic method is far preferable and effective.

19.2 I think the idea is sound for instruction; however, in some (most?) forms, I believe objective testing is difficult if not impossible. Many courses are adaptable to in-home learning, which would certainly benefit the handicapped or non-traditional student. Lab courses would not be possible, which detracts seriously (in my area -- chemistry) from the practical application of concepts learned.

19.3 Not particularly. The instructor-student interaction is such an important contribution to a successful class. The instructional media generally interfere with the type of one-on-one contact I prefer. Distance education is acceptable only when direct contact is not feasible.

19.4 Because distance education would allow a school such as ours to reach students who would find it difficult to attend on-campus classes without involving faculty travel, the concept is an attractive one.

19.5 The problem with "distance education" is quality control. My experience has been with correspondence courses. They have incredible quality control problems. Professors must be responsible for generating the learning experience for students with some assured mechanisms of evaluation. "Distance education" may not be "quality controllable."

19.6 Enable more people to learn, thus having opportunity to better themselves.

20.1 No. Need personal contact.

20.2 Yes -- where appropriate.

20.4 No. A major component of education is teacher/student contact. I believe the most meaningful and lasting effects of education come about by this contact (and I am considering other than rote learning of subject matter).

20.6 Useful for disabled; students with special needs.

QUESTION #1: "Do you like the general concept of distance education? Why or why not?

Answers of Research University Faculty Respondents

21.2 No, I do not like this concept. It is far too impersonal for my teaching style.

21.3 No -- I find that any time electronic media intervene between teacher and student that an attitude shift occurs -- a negative one. I have taught via video cassette and live TV. The result has been the same.

21.5 No -- an education is not an assemblage of facts and concepts that is imparted from teacher to student (one-way). This is the least important and least durable part of what a teacher imparts. To a student -- the most important is an inquiring state of mind and an approach to solving answering those questions. This is not a one-way process, but involves discussion.

21.6. From the perspective of the student -- No. From the perspective of the instructor -- No.

21.7 If these techniques increase the diversity and accessibility of instruction, then fine -- for example, correspondence courses in the Third World. If they are response to budget cutbacks, then it is very negative.

22.2 I believe enthusiasm, humor, and the positive personal touch are almost as important in teaching/learning as is substantive knowledge. Attitude is essential and distance education makes it difficult for these things to come through. Some subjects can be taught that way, though. But subjects in which it is important to instill values -- moral, educational, etc., distance is counterproductive.

22.3 No -- does not allow active participation in the instructional process. This model assumes learning is solely a "one way" street. This method impedes an "inquiry type" of education.

22.4 Yes, I think that those students that for any reason cannot follow a regular class schedule will benefit the most. I have watched some of the programs presented on the Discovery Channel and they make understand quite well a variety of topics, from physics to economics.

22.5 I very much like the concept. It allows students access to the university courses who might not otherwise (for financial, work obligations) be able to take them. It requires extensive extensive preparation on on the part of the instructor to be effective however.

22.6 There are two sides to the argument. Positive: It permits educational experiences to those with access problems. It can free up time from traditional classes to enrich the course. Negative: Quality control is often difficult to maintain.

22.7 Yes -- Accessibility of college coursework to non-traditional students and students who do not live near a college campus. It broadens our outreach. My reservations arise from my concern about the quality of such coursework. So much of teaching and learning emerges from the dialogue between professor and student and between students -- the dynamic interchange. Not sure if distance learning provides this dynamic atmosphere.

23.2 NO -- Personal interaction is essential.

23.3 Seems fine to me if it would serve people's needs. Nobody has made that case to me.

23.4 I would like to see research on the effectiveness of distance education. The concept is OK with me. The use of video & print media is good. Students need to interact with the instructor.

23.5 I teach organic chemistry which is highly visual and requires interpretive explanations. I think video presentation of it is essential and worth exploring.

23.6 I am a classroom person. Our school has television courses but I still prefer to be a teacher in a classroom with a chalkboard.

24.2 Not especially. In my view, it can never substitute for in-class instruction. Moreover, in times of financial stress, there will be increasing pressure to try & use it just that way -- i.e., as a substitute for "live" classroom experiences. As a general approach, it is valuable, but limited.

24.3 Yes, gives an opportunity to provide instruction to people who might not be able to get it otherwise.

24.5 It depends on the course material and the access of students to such things as computers, library. The more interactive the system the better where these items are needed.

25.2 Need to be able to respond and interact more easily and need for explicit hands-on instruction.

26.2 Not really. The opportunity for interaction among and between students and faculty is vital to the learning process in public administration and political science.

26.4 No. Personal interaction is important for learning.

27.1 Chemistry is a laboratory science. I can see much of what we teach in lectures being taught well through "distance education." I have a much harder time understanding how chemical laboratory techniques could be taught at a "distance."

27.2 The concept is very appealing as a way to provide high quality instruction to remote students. Has tremendous cost efficiency potential. Require extensive start up costs to get both media and instructors ready Monitoring student satisfaction is of upmost importance.

27.4 I am mildly skeptical because it would seem to reduce the human, affective component of teaching. For this reason I'm more receptive to interactive technologies -- visual over nonvisual.

27.5 It has great potential if done carefully. Course must be appropriate -- i.e. intro courses, simpler subject matter.

27.7 Yes -- important in a state with low population which is not in urban populations and/or large adult student populations. Some of the pre-fab courses are entertainment rather than "learning" oriented.

27.8 No -- it is my opinion that students in general are not 'getting an education." They are putting in time due to other pressures (family, economics, etc.). DE has the potential to

minimize some of the negative aspects. However, it is the personal student-teacher interaction that is key to teaching learning. I guess I am an old fashioned professor.

27.9 Provides opportunities to rural areas -- those students usually stay in communication up to graduation. Good support from various agencies. Innovation rubs off onto other program areas.

28.1 I think it may be the way to increase access to instruction while containing costs. I just have had little contact with it. Some colleagues have been involved in it & have reported positively on the experience.

28.2 Yes, due to the development of technology that permits interaction (as you described). Anything that provides face-to-face contact, or nearly provides it, makes this concept appealing.

29.1 No! It is a cost-saving measure that produces a poor product subject to many of the problems of any mass mediated communication event/activity.

29.2 Generally I am in favor of DE. However, I feel that small classes are much more effective in teaching/learning.

29.3 Don't know enough about it to have an opinion -- sorry I can't help you.

29.4 No, not effective, little interaction, dull.

29.5 [WRITTEN ACROSS SURVEY] No time to do.

30.1 No. Hassle for faculty. Direct interpersonal contact is needed/better.

30.2 Don't like in the abstract or by comparison to traditional classroom tutorial interactive teaching. But has become a necessity to reach site bound audiences (career personnel, adults) -- probably the only way that audience can be reached not an 'ideal' means of teaching.

30.3 No because the standards are generally too low -- this is a [sic] administrative [?] problem.

30.4 It may be an efficient way to teach, but it is not the best. Education needs 2 way interaction which is a problem in distance education. Even if class interaction exists after class interaction is extremely limited.

30.5 Okay as supplement but I worry about our tendency to become further distanced to our students -- their needs, etc.

30.7 In some respects the concept has appeal to me. Many potential students especially older ones, cannot readily relocate to pursue a degree or for personal enjoyment. However, I believe those programs present serious possible quality control problems. In addition, our university's efforts in this area have raised significant administrative problems.

30.9 At our university a number of courses are offered by live video conferencing, and they seem to be well received by the students. So far I am not aware that any of these have been in the sciences or technical areas; they seem to be mostly in general studies. Since the

laboratory experience cannot be duplicated at a distance, I doubt the feasibility of offering courses in chemistry other than something like the Annenberg series.

31.1 No. I think there is great value in face to face contact between instructor and student -- not on a TV set or by mail. As a supplement to regular courses -- it is all right but I have doubts about the value of totally TV courses.

31.2 In general a good concept especially in those areas where a distinct shortage of teachers is projected i.e., Math, Soc., science etc. In science area, video display of faculties, equipment etc. could save every small school the need to provide same.

31.3 I like it and use it. When a student cannot attend classes (e.g. international location, incarceration, fulfilling a basic or core requirement), I approve this method. I do not approve it to replace the classroom experience, because the personal interaction -- eye contact alone -- is worth the cost and effort of having the classroom contacts.

31.4 In general, I do not like it. I like teaching and the courses I teach require a lot of interaction among the students. I don't want to be at a distance from my students. Also, in case courses the students are often making presentations & we switch off during one class between who is "on" and who is the "audience."

32.2 Yes, because in principle it should give more students access to high quality instruction. That assumes, of course, that what is being offered is truly high quality, and that's not guaranteed no matter what the method of delivery.

32.3 Only for special situations and not to, in general, replace on-site academic experiences. It seems appropriate to present high-level courses to professionals in industry who cannot afford time to travel to a campus!!

33.3 No. I feel it is too impersonal and would likely be prone to losing the attention and interest of students. I feel very personal contact with students (i.e. easy interactions between instruction & students) is essential to the education process. Two-way distance education (voice & visual) would be the best of the methods you propose.

33.4 Good in principle but very difficult to provide adequate quality control.

33.6 Bad idea. Face-to-face interchanges among faculty & students are important for learning. Students learn much from each other -- which is lost in "distance education".

34.1 Seems too impersonal like assembly line education.

34.3 I do not like it -- students have little enough contact with "real faculty" at a large research university. I am opposed to any further reduction of direct faculty-student interaction.

34.4 No.

34.5 Very bad concept. Students are motivated by personal contact and personal involvement with the instructor. Distance education is a sure fire plan for mediocre education.

34.6 Yes, as needed and as a supplement to regular classroom instruction.

35.1 Only for the most basic, introductory courses, where the primary goal is for the student to master simple concepts and related information. Beyond that, I believe students need more interaction with instructors than what "distance education" provides.

36.2 As long as there is interaction between student and instructor, I can see the use of "distance education" in certain circumstances.

36.3 Yes. Distance education provides a means to add variety to the curriculum and enhance teaching. It is also a cost effective way to upgrade skills and knowledge of the faculty. I use correspondence material to help me learn new skills and knowledge especially in the management of people and interpersonal areas.

35.5 Personal contact is essential to the motivational aspect of education. Can "distance education" do anything other than transmit data via electronics? I have serious doubts. But, in combination with more traditional methods, I believe it can be effective and efficient.

35.6 Difficult for laboratory science like chemistry. Feedback from learner is too slow.

37.2 Its [sic] a lot of Baloney which, like programmed learning in the 1960's, will go away once the electronic jocks get their fill of it. Its [sic] a gimmick & an excuse to play electronic games. I was involved in researching programmed instruction years ago -- this is no different.

38.1 Efficient way of enhancing outreach.

38.2 I don't like it because it minimizes an important aspect of teaching/learning, i.e., personal contact. Granted, it's difficult to measure the importance of this; but it is important or there wouldn't be any point in attending live plays or concerts would there? Further, it reduces the need for <u>teachers</u> -- and we can never have enough of them.

38.3 Anything that brings diversity & life to the classroom makes a lot of sense. However, being a conservative lot, professors are likely to utilize these methods only if it is easy & convenient. Often, these methods are neither & hence remain underutilized. Even something as basic as videocassette is expensive & is the first thing cut in a budget crisis.

38.4 The only distance education I know of at my university are correspondence courses and one of 2 video sections of economics. While they make for more flexibility in the development of curricula, my impression is that students "miss" the give and take of a classroom setting, and don't avail themselves of the interactive frameworks.

38.5 We televise Principles courses by taping a lecture to a "live" section each day and then replaying throughout day. Tapes are then available for students missing class. It works quite well.

38.6 We participated in a satellite live broadcast of a discussion with Sam Walton and other Wal-Mart executives involving about 6 universities. It was moderately successful -- we had a large turnout; however, the experience was not as "2-way" as it might have been.

39.1 Depends on the subject matter. It seems more appropriate for disseminating information rather than having benefit of the interactive process. Students are more than consumers of knowledge, but should be participants in its production as well.

39.4 No. Direct personal interaction between instructor & student is reduced or eliminated altogether. It would reinforce the notion that higher education is nothing more than a series of simple hurdles to overcome with as little exertion as possible & at low cost (for the student), & that faculty can produce more without raising costs.

39.5 Yes, if this is the only alternative open to some market segments.

39.6 Yes. It can be efficient as well as economical.

40.1 I am very interested in exploring new ways to use the computer in class and esp. to work with MBA students where communication could be between me and them at work.

40.3 No. Direct interaction should be encouraged & facilitated.

40.4 Impersonal and ineffective. Except where it is supplemental to examine writing skills and provide feedback this is [ends here].

40.5 Yes, but ... (1) It can expand use of guests and specialists.
(2) If done mechanically a film or other well-produced and pre-selected material can do this better.

41.1 It's a concept of the future. I have no problem with it.

41.3 NOT for courses I teach. Science is tough without person-to-person contact.

QUESTION #1: "Do you like the general concept of distance education? Why or why not?

Answers of Community College Faculty Respondents

42.1 Generally, I like the concept. Not all courses are, however, amenable to distance education. For example, science course involving laboratory studies wouldn't be appropriate. Lab courses could, however, be handled in a "hybrid" type program where most of the information is conveyed via one or more of the listed applications, but where students & faculty meet occasionally during the term to teach or review information (e.g. lab procedures) which requires special facilities.

42.2 I dislike the general concept, and I dislike the EdD jargon for it even more. Truly effective teaching involves the human element -- call it "chemistry," "vibes," "presence," or make up your own jargon. That human element requires teacher and students to be in the same room at the same time -- and not just to watch videos together.

42.3 Inherent in the practice of "distance learning" are weaknesses such as the quality of human interaction. As I am familiar with the general concept I do not like it. To supplement traditional methods it certainly has a place -- but it cannot adequately supplant traditional instruction.

42.4 Will do away with the classroom and jobs of teachers by replacing them with media.

42.5 Yes, may allow some people to take classes that [they?] normally couldn't.

42.6 Your survey is appreciated! Covering wide intermountain campuses in ____ is a perfect distance ed system at ___. Unless each downlink site has a live interactive co-instructor/aide the impact of distance ed is potentially limited. Unlike correspondence courses or telecourse packages, this is not a popular system with administration, due to costs.

42.7 I like the concept if it is interactive and permits real time communication between the instructor and students.

42.8 1. In general, I am neither for or against the concept of distance education. In rural areas and and with a high perception of academic excellence in those who complete such programs, the general opinion of the validity of such education would increase. 2. The basic problem appears to be the lack of confidence of the public that distance education can be as good as in close education.

43.1 The lack of student contact (visually) disturbs me. I feel as though I'm just a "processor" instead of a teacher.

43.2 Video conferencing is useful in bringing together a group that may not ordinarily be able to meet -- because of distance or schedule or budgets. Distance learning can be use[ful] to those who are homebound -- handicapped.

43.3 Most community college students lack the initiative skills and interest to benefit from "distance education."

43.4 Not generally. I believe the most important part of a student's education is interaction with others -- students and faculty -- building community. "Distance education" seems less interdisciplinary -- more narrow -- more an education by pouring in facts rather than students directing their own educations.

44.1 I don't think any teaching method at a distance can be as effective as the classroom experience.

44.2 It would have benefit for the more able student.

44.3 Sounds interesting. Albeit I heard of similar attempts in the past.

45.1 It depends on how well the video material [ends here].

45.2 Only if there is curriculum control -- especially for college credit courses It equates education with exposure to the facts and leaves out an important part of the process.

45.3 Distance ed. is too sterile. The lack of personal interaction would seem to be a major shortcoming. A faculty member should be able to "read" the reaction of the students and adjust the presentation accordingly.

45.4 The purpose of education is to develop character and integrity. The ideal teacher must lead by example. I feel that distance education is too impersonal to impact the values that students need to develop.

46.1 Yes -- in rural areas educational opportunities are limited by small class enrollments and qualified faculty. For example, I would like to gain 18 semester hours at the graduate level in Economics. The nearest institution is one hundred miles away that offers these courses.

46.2 For some community college students, they may lack the academic maturity to make significant progress without the regular classroom student-teacher interaction.

47.1 [I]nexpensive, interesting, work at one's own pace.

47.2 Distance education can make study and courses available to some students who would not learn otherwise. It is a benefit to those individuals. However, some concepts, insights and information available to class attending students will be missed. Not only teacher response, but peer prompting is diminished.

48.1 It should allow "experts" to help instruct. Good overall opinion.

48.2 Yes, especially with the increase of adult students who because of scheduling or geographical constraints cannot attend regular campus courses. We also want to serve the rural and surrounding areas of this city.

48.3 Yes. It has an application but only under specific conditions that can be fully justified.

48.4 Positive -- allows students to progress at own pace. Allows greater flexibility in learning. Negative: Social science classes are enhanced by interaction with students and instructor. Requires a self disciplined student.

48.5 I do -- it affords the no-traditional student with the ability to get an education -- it also frees up the instructor to do the multitude of paperwork now required.

48.6 Yes, if used properly to the right target and standards for content, testing, & grading are high__ [?] chance. As with most "innovations" this one will probably be overused and

underuseful. And there will be a dilution of our educational resources so that the historically effective methods of teaching and learning are neglected further and standards and expectations are lowered to hide our failures.

48.7 Distance education is not really an option in many areas where geographic distance remove large segments of potential students.

48.8 Only for students not reachable by traditional instruction.

49.1 If you have a large group of people to teach you must have a person teaching in a classroom.

49.2 Yes, I like the general concept of "distance education." I completed my general education by correspondence courses given in the military service. I enjoy them and personally feel it changed my life.

49.3 It is good if monitored and structured.

50.1 I favor the general concept of distance education because it represents opportunity and access to potential students who may not otherwise be able to take courses. The access issue is an important one, among others such as effective use of resources, cost benefits, etc.

50.2 I like this concept if it is viewed as independent study rather than correspondence course work. The study must have some physical contact with the college resources -- libraries, instructors, special programs, counseling/advising, etc.

50.3 Yes -- it has a definite purpose and at this college; Especially for students who work during the day it serves their purpose. However -- my experience has been that only 1/3 students successfully complete the courses -- high dropout rate.

50.4 Yes -- because it extends the possibility of getting college credit to non-traditional learners, people who are geographically remote from a campus, older students whose work schedule conflicts w/ course offerings, etc.

50.5 I have been teaching community college students for 20 years. For this group of students -- or 80% of them -- I feel that personal contact and interaction is almost essential to their success.

51.1 My experience has been good with teleconferencing and audio-conferencing as a supplement. We also visited the various sites (4) four times during the semester; two for giving a mid-term and final exams. The problem is lack of enough regular contract with students. The advantage is that people who work odd, rotating shifts can only continue their education in this manner. The same is true for single parents on welfare. It was a good experience for me; it does not take the place of the classroom, but fills in some gaps.

51.2 Yes -- "conventional" teaching is on its way out!

51.3 Good for any lecture course. Could be dangerous for lab-work! Even with trainer supervision in labs, students do not keep safety goggles on and make other errors/omissions.

51.4 No -- I am a community college instructor. One of the advantages of study at community college is the direct availability of instructors for local -- face to face -- interaction between instructor and student.

51.5 My experience has been with audio conferencing combined with telecourse. The experience left me with mixed feelings. We are a large district with 9 campuses. Best results were with middle class teachers who were taking classes either to get an instate credential or to get salary increases. It did allow middle-aged women teachers and parochial instructors (who were teaching with emergency credentials) to take courses which they might not have otherwise taken. Military personnel whose schedules are subject to rotation, who thereby find it impossible to take even night classes one day a week could also take classes. Young mothers who have several children, who may not be married, and who apparently can't afford child care two or three nights a week were also able to listen to the videos and come in for the mid-term and final exams and do a paper. The problem with poorer classes of people (financially speaking) was that they did not often complete the course. Middle class professionals were much more likely to complete the work.

52.1 No.

52.2 Yes because part-time student, 40 miles from campus can use time for class/study not for travel. The courses we design and use have proved effective in teaching competencies connected with each course objective.

52.3 Not sure! May be required due to budget & space problems. Consider classroom interaction a major part of training.

52.4 Depends on the course -- if course content warrants discussion -- no --.

52.5 I like the idea of "distance education" for correspondence courses. I have serious reservations about any form use for college courses due to the poor quality of video materials in my subject area and lack of teacher-learner interaction. Teachers have personal knowledge and experience to offer which cannot be put in print. Also, if teacher-made videos are reused this is usually without paying the teacher. I feel that student-teacher verbal & , preferably, visual interaction is valuable and stimulating for both.

52.6 Distance education does not allow the college student the opportunity to discuss or ask questions about classroom activities as easily as a more normal class. We have done many telecourses quite successfully -- but again many students want more classroom interaction as part of the learning process.

53.1 In my opinion, most of 'distance education' courses are inferior to traditional courses. I feel they should be used for populations of students who find it impossible to attend classes.

53.2 You will notice that my most responses are "luke-warm' on this methodology. I feel that while "distance education" is OK for some subject matter (such as liberal arts curriculum) for others it is not very conducive. Here I have in mind the sciences such as chemistry, physics, biology etc., where "hands-on" instruction and student-teacher contract is very important.

53.3 Direct faculty/student involvement is essential -- any disruption of this relationship is an ineffective method of education which is usually designed by those taking advantage of a so called "need for innovation."

53.4 Yes.

53.5 Sounds OK for cognitive level. But looks like a joke for any higher level of learning.

53.6 Yes, its [sic] the class instructional method of the future, or on an initial basis. Video conferencing is especially well adapted for interactive classrooms around the world; with or without translators (in the same language, of course). Locations & issues would be heightened.

54.2 OK.

54.3 No comment -- I'm not familiar with the specifics of methods other than telecourses.

54.4 No. The direct personal interaction of the teacher with the student is lost. Also, a laboratory science course requires that the student be in the same room with the teacher.

55.1 I'm much more comfortable with direct contact & believe it is still the most affective [sic] methodology. Although I was not familiar with the concept of distance education, I have participated in the use of audio conferencing. Students at our college who are homebound are hooked up.

55.2 We have a homebound program whereby disabled homebound students participate in classes by phone. I have participated for 15 yrs. Problems often arise with the equipment & students being unable to hear. Good program. Prefer in-class instruction to handle questions & problems immediately.

56.2 I have no objection to the concept. My only experience has been with courses by T.V. I have observed that in these courses there is a large drop rate due to students [sic] objections to the actual work involved.

56.4 No. Our students are not well motivated to work alone. In other cases becomes a crutch. Students need personal relationship. Instruction would be limited to certain parameters. No allowance for interchange.

56.5 Yes.

57.1 To the degree that a student has easy access to the instructor, I think a great deal of them. Having been and currently involved in a video course, I can see benefits. However, there is no immediate feedback from student to teacher or vice versa. Given the economics of two way video conferencing however, this is as far as we can go for now.

57.2 I have read about "distance education" in some of the remote parts of our country -- Alaska -- for example. Perhaps this is the only viable type of education for isolated groups. In general, direct contact and communication works best in the education process.

57.3 Distance education is a viable instructional method especially useful for business.

57.4 I am very much in favor of alternative educational opportunities which will enable students who cannot attend classes on campus to receive educational experiences.

57.5 It provides a flexibility the traditional classroom lacks.

57.6 No.

57.7 I like it because it affords students who have unusual work schedules or personal obligations an opportunity for higher education. It can be more cost efficient than traditional instruction.

58.1 Yes and no. More convenient usually in terms of scheduling and travel distanced. I am concerned somewhat of the educational result when you don't have teachers and students interacting or students networking with other students. Some subjects may be more suitable than others for this. I think it is a terrific idea if it allows the student to take courses that otherwise would not be available or their schedule would not permit them to attend. I have taken telecourses which I enjoyed. I have also taught a statistics telecourse which was very difficult for some of the students. There were many more incomplete grades in that course than in a "traditional" class.

58.2 I like the general concept of distance education in that it makes education more easily accessible to more people. I believe it is a viable method of imparting information and stimulating thought especially in such applications where immediate interaction occurs. Telecourse & correspondence study programs lack that immediate interaction and thus are not as educationally sound.

58.3 Yes, the faculty member fulfilled the requirements -- they should be compensated.

` Puts great burden -- responsibilities on student.

58.5 I coordinate telecourses to give students an alternative to the present traditional classes on campus.

OPEN-ENDED QUESTION #2: "In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?

Answers of Comprehensive University Faculty Respondents

1.2 Younger faculty with financial needs; temporary and part-time faculty. Those who "have to" will.

1.3 No. Even though we have state-of-the-art broadcasting equipment at our campus, I don't think it would be supported under our present funding system. Our university campuses are paid per live body on campus, and so far distance education hasn't been adapted to this system. Our dean (of our college) is supportive of the concept, though.

1.4 Faculty at this university participate without extra compensation, but do receive assistance money based on external enrollment which can be used for student assistance or travel. Faculty teach their courses in the media room with a max of 24 on campus students present and students at the 14 off-campus sites. The result is an instructor can end up with over 70 students in the class without extra compensation. This has created some difficulties and has led to a refusal to cooperate by some faculty.

2.3 Yes -- as long as there is some hands-on laboratory experience -- i.e., summer camps etc. (this is related to science courses). Elaborate contact between the students and tutors is required (?) however during the academic year.

2.5 Certainly. Whether as part of a normal load or as a supplement, compensation is adequate.

4.1 No! You need resources for the enormous number of hours that are required.

4.2 I don't know if the administration would perceive it as one course load or if they would say "well this isn't much. It takes two telecourses to add up to one."

4.4 This is precisely the current and past track record.

4.6 I'm not sure whether you mean rewarded professionally (i.e. job satisfaction, rapport with students, etc.) or financially. If the former, I do not think so. If the latter, I do not know -- that depends on the funding.

5.1 Not likely. Administrators would see it as a chance to get something for nothing, adding to the burden of an already overtaxed faculty.

5.2 At this time teaching is still an interpersonal activity. A teacher not only presents problems or information he/she constantly "reads" the students and assesses their ability to solve problems and make meaning out of the information that was presented. At least for a teacher of young children -- distance education does not lend itself to the level of interpersonal relationships that are necessary. I don't dismiss the idea that better technology will make distance education more feasible in the future.

5.3 Probably not. Faculty are already over-taxed.

5.9 I'm not sure what you mean by "adequately rewarded." Depending on the audience and material they should receive the same recognition and the same pay and "credit" for promotion as if they were working in 'direct' education.

7.3 Probably not unless you can tie in research & publication.

8.1 There is virtually no support for career development -- no released time to develop new courses, to explore new instructional technologies, or to become familiar with new material or resources. And there is no staff allocated to assist. An instructor who does does so is using her/his time above the heavy demand of teaching, research and service.

8.2 I doubt it. Teaching is not valued as high[ly] as research endeavors. This is changing, but it is a slow process.

8.3 Yes, but only 15-30%.

8.4 No. Particularly "no" as it applies to taking a traditional course out of the classroom. My basic philosophy is that the classroom should be used for discussion and that outside of the classroom books are the most effective way to convey information.

8.5 I doubt that the actual effort required to do this right would ever get full credit.

10.2 Yes. Same as other teaching.

10.6 In _____, we do use distance education because we must, it is better than nothing.

10.7 They receive $800 stipend for teaching a course via interactive television method.

10.8 Nobody's being adequately rewarded today because of State budget shortages. When money is reasonably adequate my university is probably above average in innovation.

11.2 NO -- It is more time consuming than conventional methods and time spent on education is poorly rewarded.

11.4 Nothing special --just part of the normal responsibility.

11.6 OK -- Telecourse is less prep -- developing one not rewarded.

11.7 No opinion.

12.2 We have not been rewarded adequately in public higher education without distance education. I truly doubt receiving anything beyond internal gratification for expending the effort to develop ourselves and then to produce learning products/classes.

12.4 Would depend on topic -- _____ [a national professional association] has a large number of video conferences using these methods. They are successful for structured topics where minimal involvement is involved.

12.5 No; we have taught telecourses here before and the university treats it as an inexpensive way of teaching students.

13.1 No -- no way to easily reward them.

13.2 No. It is outside the norm, and adequate time to develop it would not be given, nor the research assistance to find appropriate visuals, which a prof would want.

13.4 Not sure what "adequately rewarded" means. Most likely it would be viewed as another method of delivery but not one which would increase your salary.

13.7 Maybe initially, but I predict it would become a way to save money as much, if not more, than a way to increase access.

14.1 No change in rewards.

14.2 Rewards would be available, since teaching by distance ed is just like any other [method?] in terms of course load, etc. The problem is finding facilities and keeping class size down to a manageable level. Distance ed is distinctly not time- or resources-economical the way "assembly line" ed is -- packing as many students as possible into a classroom.

14.5 I don't know -- haven't thought about it.

14.6 If the course is part of the curriculum, they would receive normal credit.

14.8 Certainly not financial.

15.3 The experience described above was not centered at my institution. My institution however considers itself progressive in such manners, and I believe faculty innovators/participants would be strongly rewarded.

16.1 No, they would be dumped into Extended Campus and paid at adjunct rate.

17.1 No. Assigned reduced FTE.

18.2 No. Faculty receive $500/semester for extra teaching.

19.2 There's no way to judge -- I don't know how our administration would view it.

19.3 Very probably so, since the emphasis at our university is changing from one which stresses the needs of the students to one which rewards "productivity" and "innovation". My university is currently looking for ways to take money from the academic program and pay more for "showy" activities. In that vein, distance education would probably get "rewarded."

19.4 Distance education 'activities could be associated with two areas of our faculty evaluation plan: Innovative teaching and community service. Such activities would be taken into account in determining a faculty member's merit increases. Because of such considerations in our faculty evaluation plan, I believe these activities would be adequately compensated.

19.5 Oh, I'm sure that any means of reducing total university costs would have a reward mechanism for those who participate. This may however be little more than -- shall I say it --bribery to reduce faculty loads, increase enrollment, and reduce overall university costs. Meanwhile, what happens to quality and quality control of academics? Incidentally, I suspect that "distance education" will be used in humanities & social sciences to support the greater costs/emphasis upon health and business schools programs!

19.6 Little is being done here, so I don't know answer.

20.1 Probably not. [rest is unreadable]

20.2 Yes, we are innovative, I have been involved in a "writing across the curriculum" project and computer-based education.

20.6 Only if undertaken for special needs students. Otherwise negatively as a breakdown of faculty responsibilities vis-a-vis students.

OPEN-ENDED QUESTION #2: "In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?

Answers of Research University Faculty Respondents

21.3 Yes -- if required of them.

21.5 I don't know what is meant by "adequately rewarded."

21.6 No opinion.

21.7 You pay faculty enough, and they'll do anything.

23.4 Probably not. It's occurring right now to some extent and most of the other faculty could care less. The people involved in it are selling the program elsewhere for $, so that's their additional reward.

23.5 No more than for any other educational effort. One has been given time and resources to make video tapes. For all others there was little variation from the ordinary lecture so no additional compensation was warranted.

27.1 Teaching, in general, at a research university is typically not very highly valued! I would guess that a chemistry professor in our department heavily involved in "distance education" would be looked down on by his peers.

27.4 I believe my department is going to try a first telecourse next quarter, but I am not involved. I should think it will be rewarded like any other teaching.

27.7 I don't know. I did my first televideo course this quarter. The time involved was enormous but I doubt any special consideration -- either for time or in KTP, will be gotten for it.

27.8 No -- teaching as such takes a back seat to research. With a lousy budget and no reward system -- no raises -- travel cut- I doubt whether there would be an overwhelming response to the introducing of a new modality.

27.9 I don't know.

29.1 They are not rewarded. The whole idea of such programs to save money or provide something for almost nothing. So there is no financial reward. I have done it, and I was rewarded with a letter of appreciation only.

29.2 Probably yes, because it is becoming more obvious that this type of teaching must be used in order to live within budgets.

29.3 Don't know.

29.4 Probably not.

30.2 Yes. We treat a distance course same as any other course, or load (eg 2/2) requirements. Teaching the course requires more effort & preparation, but not substantially so.

30.3 Yes.

30.5 Unclear.

30.7 I tend to doubt it. After three years of discussion and planning, their [sic] is still no commitment from the university to support the effort (money, extra faculty, etc.), and other recent instructional reforms have yielded more work but no more resources.

30.8 As far as I am aware, such participation is rewarded as equivalent to traditional teaching in those areas in which courses are offered by distance education.

31.1 Yes. This would be in addition to their regular salary. It is at rates varying by rank. It is done by faculty members in search of extra money rather than by those seeking to provide a service. In some cases it is done very well -- in others it cheats the students -- though they (students) are satisfied with easy credit and the faculty with the money.

31.2 Would be to the extent that good teaching is recognized in general. At this school such is the case.

31.3 They are not rewarded. They get paid extra for this "overload" work and recognized by the Continuing Education Dept.; certainly not by their own department.

31.4 I have no idea. I have not been here long enough to make a judgment.

33.3 No. In my opinion big research institutes like mine do not reward teaching excellence. I would be better rewarded if I pursued new research directions than pursuing new teaching methods. Large institutions should encourage depts. to maintain both a research & educational faculty instead of trying to have professors do both. The end result is something has to suffer.

33.4 No. No one is rewarded for teaching of any kind here.

34.1 No, we are not equipped to reward such activities.

34.3 No. Renewed interest in improving the quality of undergraduate education. At a state-funded university, such a program would be very political unwise -- especially in a geographically small state.

34.4 No, most faculty share my views.

34.5 No. Why reward involvement in a bad idea. We don't have it anyway.

34.6 Yes if properly monitored.

35.2 I think they would be adequately rewarded. Distance education is a good way to do some of the extension education which is done here.

35.3 Yes. I would anticipate that participation in distance education would be rewarded like any other improvement and /or enhancement of our teaching program.

35.5 No -- teachers at my institution (a major research institution -- _____) are rarely rewarded for teaching.

38.3 Generally speaking, we are a research university & that -- or longevity -- earns rewards. I would only consider special rewards for this activity if a fac member undertook a major initiative.

38.4 Probably not, based on meager compensation for running correspondence courses. Does your study include controls for professional attitudes toward conventional education?

39.1 Depends on definition of adequate. In general, teaching contributors at this institution are not given the credit accorded to scholarship. Thus, the incentive is not great for people to engage in such activities.

39.4 No. This is not what a first rate university should be doing, save in spzecialized programs (such as ag. extension), vocational training (not appropriate to Liberal Arts) or certain phases of medical education.

39.5 No -- this is a research oriented university. Little counts except publications.

39.6 No. It should for the reasons stated above.

40.1 Some would as long as it were tied to research -- School has a very active MIS dept.

41.1 -- Yes.

41.3 Probably.

41.4 No basis for opinion except to say that very few people regardless of their function are adequately rewarded at our university.

OPEN-ENDED QUESTION #2: "In your opinion, would faculty who participated in distance education activities at your institution be adequately rewarded? Why or why not?

Answers of Community College Faculty Respondents

44.1 As far as I know not much of this has occurred.

44.2 No.

44.3 Can't tell.

45.1 Yes. Each class is treated as part of [ends here].

45.2 We teach some business courses over the T.V. The faculty that coordinate these feel they are more than justly rewarded -- since they put very little time & effort into doing anything.

47.1 Yes -- we treat TV courses exactly like on-campus courses.

47.2 Our union contract calls for equal pay for class room or TV instruction.

48.1 Maybe -- unknown (new president).

48.2 Somewhat, as a form of teaching innovation.

48.8 Unknown.

50.2 Faculty are not adequately rewarded. Funding ratios for independent studies are 150-300% of traditional, on-campus instruction. This generates high FTE's at lower cost.

50.3 Not really -- these courses are treated at adjunct rates & there is no compensation for development of the [course] nor due the number of students compared with] full-time teaching load/productivity.

50.4 Probably not -- because this institution is underfunded and slow to innovate when it comes to the classroom!

50.5 Some use, for those students having special needs -- due to work, family, or personal limitations. We are doing this through telecourses and independent study programs. For about 50% of the students, this seems to be working OK -- not a very good record.

51.2 Yes -- professional pride.

52.1 No idea.

52.2 Yes. We have worked out a pay system that provides almost the same as a percentage load for unionized, full-time staff.

52.3 Yes! Currently offer video training.

52.4 YES.

52.5 As clerks in telecourses -- yes. For a teacher teaching in front of a video camera & being taped, the teacher gets paid only once. I object to replacing teachers with audio-tapes and videotapes for which they are inadequately paid. Computer interaction is something I would be against as a way to take a course. As an adjunct to a course it might be useful, but in my field the programs are generally very poor.

52.6 Yes. The instructor using distance education to reach their classes hear [sic] at our college would have their classes calculated in their normal teaching load.

53.2 I know some of my colleagues who at present are involved in telecourses and similar modes of distance education. As far as I know, they are rewarded adequately.

53.3 I'm fairly confident that the faculty involved are receiving adequate compensation for the limited output they provide those enrolled in this type of course.

53.4 Yes.

53.6 Presumably arrangements could be made for release time to adapt distance ed to one's classes. Also there should be in-service institutes to familiarize faculty with the concepts & procedures, equipment, etc.

55.1 Results have been mixed at best. The major problems: (1) lack of visual contact (especially in a course that makes extensive use of the chalkboard) and (2) having seen the notes of homebound students, much seems to be lost in the transmission. No, at our institution the participants are not compensated -- we volunteer.

55.2 We are not rewarded for homebound participation. Budgetary concerns are great at _____.

57.1 Yes. There is an awful lot of work which goes into the preparation of a video course. Subsequent to the writing of the script and condensing it to fit a half hour blocked time; there is the need to make sure that an instructor adequately covers the material which will be the subject of tests. This is not an easy task when considering that there is no face to face contact with the student.

57.3 Yes. School has allocated reasonable resources.

57.4 Currently, there is discussion about payload hrs. for these activities on my campus. This may result in professors who are responsible for these courses being compensated at a reduced level.

57.5 I don't know. This concept is too new on our campus.

57.6 Yes.

58.1 Faculty who took classes in this manner would get the same professional development credit as for traditional classes as long as it was from an accredited institution. Faculty who taught in this manner would be treated similarly to other faculty. Faculty teaching telecourses here are adequately rewarded.

58.3 Yes, the faculty member fulfilled the requirements -- they should be compensated.

58.4 Telecourses equate equal to lecture course more than fair.

58.5 Yes, they are now.

OPEN-ENDED QUESTION #3 "Whether or not (in your own opinion) your institution makes significant use of distance education methods, should it be doing so? Why or why not?

Answers of Comprehensive University Faculty Respondents

2.1 I think major universities should do this. Their prestige would mean a lot to the nontraditional approach.

2.2 Yes, we are in a geographic area that needs distance learning. Again, the priorities in our university are not conducive towards it as a top priority.

2.4 Could be used to reach people in outlying areas: I'm not sure of the demand for these however.

3.3 My university does make use of some distance education methods and I feel that the subjects thus taught are adequately covered. I do not feel that science courses are effectively taught in this manner.

3.5 Same answer as above.

3.6 We make little use in my area of the university. I believe students need live, present professors. I guess that I'm traditional or old fashioned!

3.7 Yes it should. I would like to see more telecourses.

3.8 It does not!

3.9 Yes -- we need to recognize that there are many (over a hundred) methods of teaching that are more effective (and more cost-effective) than traditional lecture [&] test. We also need to become aware of learning styles, how to best use new technology, and the research showing the superiority of alternative learning methods.

5.6 No. I feel that at least half of a university education is obtained by interaction and exchange with the people around you. Distance education would largely eliminate this factor.

5.8 Not much, need mostly a live person to stimulate learning.

6.2 No. Not for me, as stated above.

6.4 It is my perception that my college offers TV courses from the state university for our local students who are going for their master's degree. I do not see the usefulness of media education in our program here.

6.5 We use distance education to some degree; however, training time is generally not available.

7.1 Right now there is lots of interest. In the short term there are rewards & encouragement. I'm not certain what will occur in the long term.

7.2 Yes. It should be for the reason cited above and because we have faculty throughout the university who can deliver it.

9.1 Only for highly specialized material with highly motivated students.

9.2 No--for the reasons stated above.

9.3 Very limited.

9.4 My college makes no significant use of distance education, and I agree with this policy. Distance education may be a money saver, but I wonder whether it is a good medium for motivating students or whether instead it alienates them. I also wonder whether it is pedagogically appropriate in all types of courses.

10.4 Only on a limited scale -- anything that limits interpersonal face-to-face human contact between student and instructor has only a marginal value for upper division undergraduate and graduate courses.

11.5 My university does a small amount of "d.e." & could do more. I'm sure the drawback is primarily the initial cost.

11.6 No opinion.

13.6 Probably yes, because we have a fairly strong faculty union. Nonetheless, the faculty might be fearful of such sources being used by the administration as an excuse to hire fewer faculty.

14.4 _____ should make significant use of distance education because of the geographical span and the distribution of student population that have to commute long distances.

14.7 Yes (See above).

15.1 Yes, in special areas. But again, not for the regular courses.

15.4 NO -- SEE ABOVE.

16.2 No -- we teach off campus classes to serve surrounding communities.

16.3 should -- our service area is sparsely populated.

16.4 My institution is dragging their feet about DE because of budgetary problems, lack of faculty time to develop courses, and lack of faculty expertise in this area. We <u>should</u> be actively pursuing this option for a variety of courses. We do draw from a large geographical area and DE could be a viable option.

16.5 Our university uses D. E. for some accelerated programs with high school students in the region. I don't believe, at this time, given budget problems, that the idea of expanding D. E., to university courses would be well received -- the initial costs would be too high.

16.6 We do a lot of this now.

18.1 I would like to see it explored.

19.1 Only on a limited basis, especially to increase access to special clienteles. It would be a miserable way to run a degree program and such a situation would simply represent "consumerism" run rampant!

OPEN-ENDED QUESTION #3 "Whether or not (in your own opinion) your institution makes significant use of distance education methods, should it be doing so? Why or why not?"

Answers of Research University Faculty Respondents

21.1 I would hope not. Contemporary education at large universities is very impersonal as it is. I hope that we do not "high tech" ourselves into making it even more impersonal and uninvolving than it already is.

22.2 Universities should experiment & do research on methodologies before significantly increasing the use of DE. Universities should [ends here].

22.3 I don't know.

22.4 Yes, this university does use the distance education method quite effectively. It helps those students interested in getting a degree, but not able to attend a regular class.

22.5 Our University, _____, does make use of distance education and is working to enhance and expand the program.

22.6 It does, and it should. It expands the educational delivery we can provide.

22.7 Possibly so, given the geographic isolation of much of the population of this state (heavily rural). This form of learning might be less intimidating to some non-traditional students, e.g., minority adults who live in these rural areas. Could make it a valuable learning tool in a state like _____.

23.2 No -- seen as sub-standard, community college or correspondence school .

23.6 We offer television courses.

24.2 Yes, because my university does have a quality of instruction which is better than what is otherwise available at the sites to which the instruction is sent. I do think that for the sake of quality, no university should have a monopoly in offering "distant education."

24.3 (See above).

24.4 It does use distance education and it should for the above reasons.

24.5 We should. _____ is isolated, etc. It is a competitive necessity.

25.2 Faculty-student distance already too great.

26.2 Low priority.

28.1 It should use it more to supplement current offerings or course material. But I think it is limited in usefulness & can't replace live instruction.

28.2 Probably, way for universities to meet needs of diverse market segments, apply specializations, expand without significant capital investment in land & buildings, conserve fuel, etc.

30.1 Yes. Budget requirements necessitate this program.

30.4 I do not believe it is a good idea for our institution, although we are likely to do so. Basically, I feel the quality of education is not the same. Second, it strains traditional instruction by requiring more resources & effort. Most importantly, college education is more than classroom experience. It seems to me other alternatives (e.g., community colleges) are available for the few place bound students.

33.6 _____ should make greater use of "distance education" for people in prison for which classroom experiences are necessarily difficult.

35.1 Probably not -- budget constraints are forcing many into classes to be expanded significantly, with no changes in the structure of those courses (i.e., there is one professor lecturing, no discussion sections, etc.). Distance education might be a viable alternative -- even improving the quality of education.

35.6 We should and do continue to experiment with video etc.

37.2 Hell No! Because of the above.

38.1 Yes Large classes. Many commuter students.

38.2 No! The university should be hiring more teachers & depending less upon video teaching. If we were to go to "distance education," what would keep video stores from renting out video classes and awarding degrees? (I mean in the long run). If you believe in the notion of college, you simply cannot believe also in distance education.

38.5 It worked and nullifies need for enough instructors to teach (15-20) separate sections of principles courses.

40.4 No -- for the above.

40.6 We do. But correspondence courses our chief method is a poor method. TV courses etc. should [be developed?] by consortium development to spread cost.

OPEN-ENDED QUESTION #3 "Whether or not (in your own opinion) your institution makes significant use of distance education methods, should it be doing so? Why or why not?"

Answers of Community College Faculty Respondents

43.1 We should be more involved in distance education because of the potential of serving rural populations in our service area. However, as always, cost vs. benefit must be evaluated in view of inadequate funding.

43.2 It should not. Students deprived of human teachers are shortchanged, and teachers deprived of human students are like speakers in an empty auditorium. Further, telecourses, correspondence courses and other such devices are noted for their lack of academic rigor. There are, as the German word Ersatz suggests, cheap substitutes. [Adds his name and position].

43.3 Unless distance education methods are the only way to provide instruction, the methods should be secondary to other methods. We have 3 campuses but each is within 30 min of the other 2. This physical factor allows students to receive live in-class instruction with a minimum investment in travel time.

43.4 No, see above.

43.5 Yes, if it did not compete with our traditional classroom instruction. It would help us increase our market.

43.6 Cost alone limits us at this time, through expanse of distance in _____ would benefit our community ed through distance ed. Distance ed could expand elaboration activities in chemistry, biology and pre-med.

43.8 Distance education as a part of continuing education is well accepted here and should continue to expand. A barrier to distance education is the funding formula used by the state to calculate FTE. Also, distance ed is not recognized as part of a faculty load outside of continuing ed programs. Penetration of distance ed. into degree based instruction is to me an open question which needs clarification before it can be answered.

44.1 I'm not sure. It seems at times to me that the world of video and "hightech" media are upon us. I feel that there are deep problems in education. I suppose that new education methods should be implemented but I'm not sure that telecourses are a good choice.

44.2 Yes -- see above.

44.4 In specific instances ok. We have several telecourses but we require some class attendance and interaction. For home bound students, for self motivated students this can work marginally.

46.2 In certain disciplines, it can be a viable alternative to SOME classroom interactive learning, but not as the main delivery system.

46.3 If the medium is successful in some areas, used by those who can but apply it and feel comfortable with it, I would not object if the learning and/or performance objectives are met.

48.1 Yes, right now we do telconferencing and telecourses but we're in the developmental stages of an ITFS delivery system.

48.2 Most of what the college has done is telecourses. which require self-discipline I have used interactive computerized reviews most successfully.

48.5 Yes -- same reason as above plus it can be used it strengthen weak programs.

48.6 Perhaps in a small way because: 1. It increases the [understandability?] of "the message" to those who don't make use of traditional settings 2. It distributes expensive instructional resources esp. personnel over a larger audience 3. It increases the visibility of the institution & may even attract traditional students 4. New information reaches the audience faster than through several individual instructors.

48.7 Our institution is and should be using distance education methods.

49.1 Certain courses may adapt to distance education methods, but laboratory courses where hands on learning techniques are needed makes distance education less plausible.

49.2 It should and is doing it. However, because of budget crises etc. we probably will cut it out.

49.3 It should be doing so. Currently, we have telecourses and are interested in expanding in this area. We also have the capability in computer related courses.

50.1 Yes, it should be making significant use of distance education methods, where appropriate, because of the [problems?] identified above.

51.1 Yes. It is a way for some people to continue their education when they could continue it in no other way. It is also very cost effective.

51.3 Not at this campus because of the lack of a satellite dish to receive video teleconferences. Expense of programs many times are prohibitive!

51.4 In chemistry very little remote ed. is used. I would like to use more computer tutorial -- self study programs to supplement regular lecture-textbook study. The main problem is lack of on-campus computers.

51.5 My school does not participate as a unit, but as a part of the _____. My school serves a large suburban area of over 2 million, and enrolls as many students as the rest of our district combined.

53.1 I feel that _____ stresses traditional courses but also provides distance education for certain courses and special populations. In my opinion it represents a suitable balance.

56.2 We offer TV courses for introductory courses in Am. Hist., Nat'l Govt., Sociology & Psychology. My only involvement is when an instructor may be needed for one of these courses. They then have the responsibility for the written assignments, exams, etc.

56.4 Televideo instruction in basic course.

56.5 Yes -- would increase enrollment.

56.7 Yes, it should. People in the workplace are accustomed to distance communication and expect us to be aware of developments in technology.

58.2 My college currently uses telecourses. It is not surprising the drop-out rate is high. If we plan to continue to offer distance education programs, I would prefer to see some of the other methods pursued.

Additional Comments Offered by Respondents

46.1 If SIU offers these courses I would be interested. [gives name, address].

50.5 I'm really surprised that a scholar or the CCRIHS would believe that conclusions drawn from answers given in questions 7-20 would have validity. Could not most college educators answer each question truthfully with a 1 as easily as with a 7 depending on conditions not stated?:

54.2 You should include a 2-way TV method. That is what we are aiming for.

Appendix F

CARBONDALE COMMITTEE FOR RESEARCH INVOLVING

HUMAN SUBJECTS APPROVAL FORM

CCRIHS Form #1

REQUEST FOR APPROVAL OF RESEARCH, DEMONSTRATION OR RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS

PROJECT TITLE: DISTANCE EDUCATION: THE RECEPTIVITY OF PUBLIC RESEARCH UNIVERSITIES I FACULTY TO AN INSTRUCTIONAL INNOVATION

CERTIFICATION STATEMENT:

In making this application, I(we) certify that I(we) have read and understand the University's policies and procedures governing research, development, and related activities involving human subjects, and that I(we) shall comply with the letter and spirit of those policies. I(We) further acknowledge my(our) obligation to (1) obtain written approval of significant deviations from the originally-approved protocol **BEFORE** making those deviations, and (2) report immediately all adverse effects of the study on the subjects to the Chairperson of the Carbondale Committee for Research Involving Human Subjects and to the Director of the Office of Research Development and Administration, Southern Illinois University at Carbondale, Carbondale, Illinois.

Thomas A. Clark

THOMAS ALLEN CLARK

RESEARCHER(S) OR PROJECT DIRECTOR(S) DATE

Please print or type out name below signature

Marybelle C. Keim

MARYBELLE C. KEIM

RESEARCHER'S ADVISOR OR DEPARTMENTAL SUPERVISOR DATE

Please print or type out name below signature

The request for approval submitted by the above researcher(s) was considered by the Carbondale Committee for Research Involving Human Subjects at its 10/2/91 meeting. The application was approved XX not approved ____ by the Committee. Special conditions were ____ were not XX set by the Committee.

[signature]

CHAIRPERSON, CARBONDALE COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS

10/2/91

DATE

VITA

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Dissertation Title:

FACULTY ATTITUDES TOWARD DISTANCE EDUCATION IN U.S. PUBLIC HIGHER EDUCATION

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Publications:

T. A. Clark. (in press). Attitudes of higher education faculty toward distance education: A national survey. American Journal of Distance Education.

T. A. Clark. (1991, December). GTE Spacenet panel: Creating a new solidarity -- the merger of business and education. Teleconference, pp. 18-21.

Verduin, J. R., Jr., & Clark, T. A. (1991, March). Distance education: The foundations of effective practice. San Francisco: Jossey-Bass.

Clark, T. A., & Verduin, J. R., Jr. (1989). Distance education: Its effectiveness and potential use in lifelong learning. Lifelong Learning, 12 (4), 24-27.